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ABSTRACT

The Content Area Learning/Reading Project at the Cosgrove Junior High School in Spencerport, New York, was initiated in the fall of 1979. The goals of the project were to foster effective instruction in all classrooms and to promote instruction based on sound principles and practices as indicated by research and by review of successful content area reading programs elsewhere. This report contains the findings of an evaluation of that project, which was undertaken to determine whether the project had successfully met the requirements of effectiveness, cost efficiency, and transferability, and whether it had verifiable evidence to support its claims of success. Various sections of the report provide (1) background information; (2) a project description; (3) procedures used in planning, implementing, and evaluating the project; and (4) the evaluation results, including assessments of the effectiveness of the teacher training program and project implementation, teacher and student attitudes, student achievement, and cost effectiveness. The report concludes that the project had met its goals in a cost effective manner. Among the appended materials are a sample teacher planning book, a class observation form, survey instruments, and survey results in a tabular form. (FL)

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EVALUATION OF THE

CONTENT AREA LEARNING/READING PROJECT

AT THE COSGROVE JUNIOR HIGH SCHOOL

FRANK FERRIS
DIRECTOR OF READING

CS 007 239

3/1/83

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PART I: THE PROBLEM

A. BACKGROUND INFORMATION ON THE PROJECT

AWARENESS
SKILLS
ASSESSMENT
INSTRUCTION

B. PROJECT DESCRIPTION

RATIONALE
PURPOSE
SOURCES
MODEL
DEFINITIONS
LIMITATIONS

A. BACKGROUND INFORMATION ON THE PROJECT

Awareness

In the 1974-75 school year a small core of teachers representing the four major disciplines were called together by the building principal to consider the idea of content area reading. The building reading specialist and the district reading director coordinated this monthly effort to develop awareness and understanding of the reading process and its relationship to reading in the various disciplines. Scepticism gradually developed into understanding and acceptance that the teaching of skills should be integrated into content. It also became clear that the total junior high faculty should be involved in this study. Plans were soon underway to use the annual Superintendent's Conference Day as a day focusing on reading in the content area. For this purpose outside speakers from the State Education Department and a local college were contacted to present ideas and techniques focusing on individual differences, levels of questioning and use of cloze procedures.

Skills

Reactions to the ideas, techniques and materials presented in this workshop proved very positive and sparked efforts of the group to continue their monthly meetings. Soon discussion centered on reading skills - which ones are relevant to the junior high and how to teach them? To answer the first concern a survey was developed to determine from the classroom teachers just what skills they considered critical to success in their various disciplines.

Response to the survey was very positive and plans were set up to analyze the replies, coordinate the skills and consider ways to teach them. Authorization

was sought and received for a team of nine people (two teachers from English, social studies, math and science and the reading resource teacher) to work for two weeks in the summer - a total of forty hours each - on this project. The result was a set of twenty-eight skills that the team agreed were common to all four disciplines. The skills were generally described and then examples were cited to illustrate how each skill would be used differentially in each discipline. In addition a number of specific resources, exercises and activities were identified and coded to the skills. The skills and the accompanying resources were compiled into a Teacher Resource Book and distributed to the entire faculty. Teachers were encouraged to use this resource.

Assessment

To teach skills effectively within the various disciplines it became clear that some indication of student competence regarding skills was essential. In particular there was a need for an inventory which would help teachers identify skill deficiencies. To aid in this task a team of teachers from math, science, social studies and reading worked together with the building reading specialist and district reading director to design and develop diagnostic inventories in each of these three content areas. The purposes of these diagnostic reading criterion tests were 1) to assess students skill deficiencies and strengths, and 2) to provide a means of monitoring growth of students in the junior high. In particular, these locally developed tests are used as a pretest at the beginning of seventh grade, as an interim test at the end of seventh grade, and as a posttest at the end of eighth grade. To encourage the use of the data in a diagnostic/prescriptive manner, a management

system focusing on an individual pupil profile was designed and implemented.

Since the fall of 1976, these criterion references diagnostic tests have undergone rigorous tryout and evaluation by professionals and schools both within the Spencerport School System and outside the District. Classroom teachers, curriculum specialists and researchers have been actively involved in the test development and validation. Attention has focused on 1) establishing content and concurrent validity of the three instruments, 2) establishing "critical passing" scores, 3) developing local percentile norms, and 4) developing a management system. In August of 1979 a three-year data base for these locally developed norms was completed. The individual pupil profile has also been revised, put up on the computer and was made available for use in the spring of 1979. Class profile sheets highlighting strengths and weaknesses have also been developed and are in use. Meetings at the building and team level to update the faculty on the administration, interpretation and use of the test data are held periodically.

Instruction

Much has been accomplished in the past five years (1974-1979) to develop an awareness of the reading skills as well as the techniques for assessing skills required in the various content areas. In the fall of 1979 it became apparent that it was time to emphasize instruction: to focus on the instructional competencies of teachers in the classroom. It was the purpose of content area project to lay out a plan of action that would retrain teachers to become effective implementers of content area principles and practices.

B. PROJECT DESCRIPTION

RATIONALE AND PURPOSE

Since every subject area has required reading, reading skills can be incorporated when content and process are taught concurrently. Reading in content area program will then fuse content and reading skills in the regular classroom instructions. Each teacher will remain a content area person while providing reading instruction as a part of his curriculum without sacrificing the teaching of his subject. Teachers need to be provided resources and time during the school year and summer to develop methods and materials to provide this type of instruction within their curriculum.

The Content Area Planning Team composed of teachers and administrators will offer in-service experiences through which teachers can develop methods and materials for an extended program. Utilization of the Planning Team especially the teachers to assist others in their own departments will produce a multiplier effect, thereby expanding the content area reading program. As a result of this total staff commitment, we can expect evidence of improved achievement in reading and in subject matter disciplines. Participation in on-going staff development activities should also provide evidence of better teacher understanding of the methods.

The commitment of the Spencerport School District to individual achievement, especially in the basic skill areas of reading, writing and math, has been underscored by the State Regents Competency Tests. The need to retrain staff to provide more effective instruction within the regular classroom is of utmost importance.

PURPOSE OF THIS STUDY

The overall purpose of the CAL/R Project is to foster effective instruction in all classrooms at the junior high level. The project is intended to promote instruction based on sound principles and practices of learning as indicated by research and successful content area reading projects. As described below under Goals and Objectives, the staff development activities were designed and implemented to develop teacher awareness of sound content area instruction and to enable all teachers to construct and implement specific strategies such as concept statements, structured overviews, vocabulary exercises and three level guides. The criteria for success will be each teacher's 1) attitudes toward CAR principles and practices as indicated by various attitude scales; 2) actual development of a unit based on CAL/R principles and 3) each teacher's successful use of the unit in a regular classroom setting as verified by the CAL/R trainers and/or by the building principal.

As a pilot project it was further intended to determine if such instruction is not only effective but cost efficient and thus should be considered for implementation at other levels where content area subjects are taught. The evaluation then of the Cosgrove Junior High Content Area Learning/Reading Project hinges on the responses to two basic questions -

> Has the CAL/R Project successfully met the requirements of effectiveness, cost efficiency and transferability?
>
> Has the project provided verifiable evidence to support its claims?

The purpose of this staff development project was to develop, implement and evaluate a Content Area Learning/Reading Program at the Cosgrove Junior High School. More specifically the goals and objectives of this planning/ training project were as follows:

Goals and Objectives:

1.0 To develop a plan for staff development focusing on content area reading at the junior high level.

- 1.1 To design an in-service format that would enable teachers and administrators to become knowledgeable of and competent in sound theories and practices of learning/reading as they apply to various content areas.
- 1.2 To involve all teachers and administrators in the staff development plan over a three year period.
- 1.3 To develop a cooperative approach to in-service by directly involving teachers, building administrators, and central office personnel.

2.0 To encourage and to implement the on-going development of content area philosophy and strategies.

- 2.1 To pilot initial content area units developed during the workshops.
- 2.2 To provide opportunities for teachers to discuss their experiences in using content area materials and strategies.
- 2.3 To foster the development of additional units based on CAR principles.
- 2.4 To examine teacher-made tests and to evaluate and adapt them in terms of content area principles.
- 2.5 To foster administrative support of teachers' uses of CAR materials and strategies.

3.0 To evaluate the effectiveness of the project in terms of teacher and student behavior.

3.1 To assess the effectiveness of the training module developed for the project.

3.2 To assess the effectiveness of the implementation strategies.

3.3 To assess the attitudes of teachers toward the philosophy and recommended strategies developed in the CAR project.

3.4 To determine the effect of teachers' use of CAR on student achievement.

3.5 To determine the effect of teachers' use of CAR on student attitudes.

SOURCES

The planning and implementation of this Content Area Project was based on the findings drawn from the literature on in-service education (1) and on model content area programs (2), and on successful staff development practices within the Spencerport School District (3). Of particular value was the potentially powerful effect of all teachers in all disciplines teaching a common set of skills within their content areas. This approach requires that the classroom teacher along with the building administrator and project director(s) become meaningfully involved in developing the program.

Given this problem solving approach, the following generalizations for staff development guided the design and implementation of the Content Area Project.

1. It is helpful to assess both student performance and program needs in the process of identifying problems. Collecting objective data helps to determine the extent and nature of the problem. Building awareness of student needs and program requirements can also be done through less formal means such as structured discussions of dissatisfactions with key personnel. Whatever procedure is used it is of importance to develop a common perception that a problem exists and that something can be done to solve it.

2. Superficial solutions to problems will not motivate teachers nor principals. Professional commitment to problem solving requires belief in the worth of the solution. Programs whether in specialized areas such as a reading center or in the classroom that are designed to help individual children appeal to teachers. Once teachers become convinced (and it takes time) that applying a diagnostic/prescriptive approach in their classes will improve their instruction and will benefit their students, a high degree of motivation can be developed and the considerable effort required to apply this demanding approach will be made.

3. Teachers also are motivated by programs that incorporate the teaching of skills within their respective disciplines. The value of using their own materials, with their own students, in their own classrooms makes sense to teachers and is readily accepted. The old canard that every teacher is a teacher of reading turns off teachers and should be avoided. Rather the emphasis is on fostering "effective" learning in each content area.

4. In addition to motivated, committed teachers, the building principal must also become actively involved if programs are going to be successfully developed, implemented and maintained. The rate and depth of progress in applying sound principles of learning in content areas is tied to the building leader's understanding and commitment to this concept. Sound staff development activities must include the building principal. Without the interested, responsible support of the building leader, little of substance can be achieved.

5. Another key element in the process of building effective programs is the leadership and support provided by Central Office. Such institutional support is demonstrated by the appointment of a project director and by making the project of high priority and as a consequence making available sufficient funds as well as time for planning, developing and implementing. Successful projects require in addition the cooperation of staff at various levels - central office, building leader, and classroom teacher. In this process different kinds and levels of leadership are essential. To assure meaningful involvement, the specific role and responsibilities of each professional should be clearly defined and communicated so that responsible decisions can be made, meaningful activities undertaken and realistic timetables set.

6. In all stages of program improvement whether assessing, developing, implementing or evaluating, it is helpful to use planning models. The particular form that the model takes is not crucial. Of importance is that <u>all</u> affected parties are aware of the project objectives, key tasks and the personnel responsible for completing these tasks and deadlines. High morale is built and sustained by common understandings of the project objectives and responsible carrying out of agreed upon tasks. The use of flexible planning models to clarify key planning elements and to highlight the interrelationship of objectives, tasks and people promotes good communication.

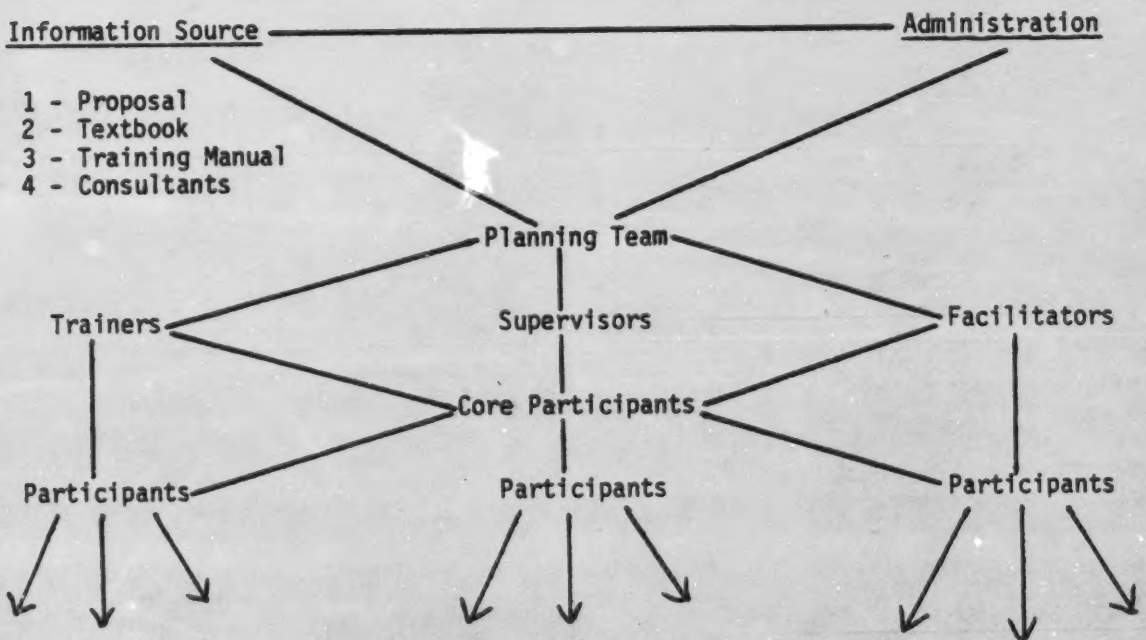
In effect these various factors involve the entire staff in a cooperative effort to find better solutions for a common problem - the achievement of students. This active, purposeful involvement of staff in an ongoing process of program improvement rests on a firm basis of shared perception of needs and desired results. Working cooperatively to find and adopt solutions assures greater success both for student achievement and staff growth.

MODELS

During the course of this project two models proved to be of value. During the planning stages a staff development model based on Herber influenced projects (2) helped to clarify thinking and to assure involvement of key personnel (see Table 1). In this schema the importance of having a consistent data source such as a text or a consultant to draw from is stressed along with the need for enlightened administrative involvement. The model also emphasizes the place of facilitators (teachers as well as support staff) in extending the project from a core group to all teachers in the building.

TABLE 1

MODEL OF STAFF DEVELOPMENT



For the training of teachers and administrators in Content Area, a four day training module was designed and used throughout the three-year training period. As indicated by the workshop Agenda (see Appendix A) key topics presented are as follows:

1. Reading in Perspective
   (an overview of the philosophy and major purposes of Content Area)
2. A Sense of Structure
   (an introduction to structured overviews, content statements, key vocabulary)
3. Vocabulary
   (the importance of and criteria for selecting and preteaching key vocabulary words)
4. A Sense of Process-Comprehension
   (an introduction to levels of comprehension and patterns of organization)
5. Co-Learner: Grouping
   (Individualization through Grouping)
6. Evaluation
   (an introduction to table of specifications and how to construct valid tests)

These topics were related to the key data sources: H. Herber's Teaching Reading in Content Areas, 2nd ed., 1978, and to Content Area Reading (CAR), a manual developed by the two trainers: Eileen Kotzer and Frank Ferris. In each section of the manual there are structured overviews of major concepts, definitions and background material, suggested procedures and samples of teaching materials. After each four-day training session, the manual was reviewed and revised based on trainee input.

TERMS AND DEFINITIONS

Content Area Reading is based on a number of disciplines such as psychology, learning theory and reading itself. For clarity and good communication it is important to identify key concepts and to define terms as they are used in a content area reading perspective. In this section of this report only a few terms will be identified and defined. A more extended list is included in the training manual.

ASSUMPTIVE TEACHING	Teaching presupposes students already possess mastery of the skills and concepts necessary as a foundation in which to extend old concepts or build new ones.
COMPREHENSION, LEVELS OF	Different levels of cognition:
	literal - what the author said; students determine what the words mean and the relationship among the words
	interpretive - what the author meant by what he said; students use information in the reading selection to form mental relationships; to use the ideas
	applied - students use the literal and interpretive levels plus other readings and their background to evolve ideas or directions new to them
GUIDES	Types of simulators which provide structure and give students a feeling for process and content
	reading guides - structures designed to assist students in the application
	reasoning guides - structures designed to assist students in the development of ideas
READING	Thinking process which includes decoding of symbols, interpreting the meaning of the symbols, and applying the ideas derived from the symbols
READING THROUGH CONTENT	Application of reading skills necessary to understand the ideas of a particular subject
STRUCTURE	Interrelationship among ideas and organization of a subject
STRUCTURED OVERVIEW	Diagram created out of the basic vocabulary of a unit so as to show relationships among concepts represented by the words
VOCABULARY, TECHNICAL	The language of a subject; words which serve as a basis for communicating ideas

LIMITATIONS/CAUTIONS

The Content Area Project at the Cosgrove Junior High School is not a finished program. Rather it is an on-going project in which the goals and objectives are still in the process of being achieved. Evaluating the project then at this point has certain build-in limitations that need to be kept in mind. First of all this is not an experimental study with control over all the major variables. Rather it is an action research type of study in which changes in teacher behavior and student behavior are desired but are not necessarily bound together in a cause-effect relationship. Caution then needs to be taken in attributing any change, desirable or undesirable, to just the project itself. Second, caution should be exercised in expecting substantial changes so soon in a project. For some teachers this year of evaluation coincides with their first exposure to content area principles. Thirdly, caution should also be exercised considering the nature of the evaluation instruments. Though considerable care was used to select and/or adapt the best available instruments, particularly in regard to attitude scales, and though great care was used to administer the attitude scales in the recommended manner, the need to interpret such data cautiously cannot be overemphasized.

RESOURCES/BIBLIOGRAPHY

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2. Ideas from East Syracuse-Minoa Central School, East Syracuse, New York; Norwich Central School, and West Hills Central School, Syracuse, New York.

3. Ferris, Frank. "Staff Development in Content Area Reading: A Program that is Working", paper presented at International Reading Association (April 24, 1979), Atlanta, Georgia.

PART II: PROCEDURES

A. PLANNING/TRAINING

B. IMPLEMENTATION

C. EVALUATION

COST EFFECTIVENESS

I. DEVELOPMENT OF CAR: PLANNING/TRAINING

Based on the CAR model, a three year staff development plan was designed. Teachers in all content areas including such special areas as home economics, industrial arts, and physical education were to be trained over the three year period. In addition the two building administrators and other support personnel such as the guidance counselors and the librarian were also to be given intensive instruction in content area reading.

A. GOALS AND OBJECTIVES

The two directors of the CAR project developed a four-day workshop module based on the literature and on model CAR programs at East Syracuse/Minoa, Union Springs, West Hills High School, Syracuse, and Norwich. The purpose of the Spencerport workshops was to achieve the following goals:

1.0 To develop an understanding of and positive attitudes toward desirable theories and practices of learning at the secondary level.

2.0 To develop the ability to make representative materials that could be used in the teachers' regular classrooms, and

3.0 To develop strategies for applying, at a minimal level of competence, content area principles and practices within the regular classroom.

To achieve these goals the following objectives were followed:

1.0 During the four day workshop, administrators and support personnel received orientation and training in reading in the content area in order to:

1.1 become knowledgeable concerning the philosophy and specific CAR techniques such as vocabulary reinforcement guides, levels of comprehension guides, and evaluation techniques;

1.2 be able to evaluate effectively lessons using reading in the content area; and

1.3 be able to support the content area project among the various staff members and to communicate the intent of the program to students and parents.

2.0 Teachers also received orientation and training in the philosophy and methodology of content area reading. Through intensive training sessions the teachers became knowledgeable and skilled in:

2.1 developing structured overviews, vocabulary reinforcement guides, levels of comprehension guides, patterns of grouping, and evaluation techniques; and

2.2 implementing content area methods and materials in their classrooms.

B. ACTIVITIES

During the four day workshop participants developed the following:

1.0 A structured overview which identified key concepts necessary for students to grasp the content of a unit of study.

2.0 A concept statement which stated the objectives in teaching this unit.

3.0 Vocabulary extension exercises relative to the key concepts identified for the unit.

4.0 A reading/reasoning guide related to this unit for use with students.

5.0 A unit test based on the concepts and skills taught.

During the three year staff development period, six workshops were conducted by the director of reading, the building reading resource teacher, and outside consultants. Herber's text entitled Teaching Reading in Content Areas: 2nd Edition was made available to all participants. In addition a training manual was compiled to provide consistent information and model materials. An agenda for the workshops was developed to provide a balance of theory and practical activities (see Appendix A). At the end of each workshop participants were given

an opportunity, both orally and in writing, to evaluate the various components of the workshop.

The directors of the workshop assisted participants and reviewed the components of the units developed. After the unit plans were completed, the teachers used the materials in their classes. The workshop trainers, the building administrators, and other workshop participants were encouraged to observe the try-outs of the materials in the classrooms. After all the units had been piloted, the training group was provided with a half-day review session to share and assess their experiences with the newly developed materials.

II. IMPLEMENTATION OF CAR

A. GOALS AND OBJECTIVES

The overall goal of the implementation phase was to encourage the application of CAR principles and practices in all areas of the curriculum. More specifically, the objectives were: (1) to continue the development of teacher understanding of CAR, (2) to encourage the development of additional units of instruction based on CAR principles, and (3) to encourage the integration of CAR in the regular curriculum.

B. ACTIVITIES

In pursuit of these goals and objectives, the following activities were carried out:

1. A series of faculty and team meetings were scheduled to provide additional background information, clarify procedures, and address other items identified as needs.

2. Two teacher-trainers/facilitators were made available to assist other teachers in all phases of the project. In the spring semester of 1981 a social studies teacher was available one period per day to assist in the implementation process. In addition, the building reading teacher was actively involved in assisting the teachers in the project. In the fall of 1981 the reading teacher was released from her regular duties to assist

in implementing the CAR project. In the spring of 1982, when the reading teacher was on sabbatical leave, the social studies facilatator was available one period per day to assist in the project.

3. To encourage the continued development of CAR units, the building principal required that each teacher trained in CAR develop two additional CAR units during the spring of 1981. During the 1981-82 school year each teacher was expected to develop two additional CAR units of instruction. These units could be new units or adaptations of existing units.

4. Several proposals were developed and approved for teams of teachers to develop additional CAR units in the summers of 1980 and 1981. In the fall of 1981 the reading teacher/facilatator organized the various CAR units so that all departments would have ready access to the units in their discipline. In March of 1982 a Superintendent's Conference Day was utilized to further the development of CAR materials and objectives.

5. As understanding of CAR strategies became more widespread, project emphasis moved to evaluation techniques. In particular, the June 1981 final tests in four academic areas were analyzed on the basis of three levels of questioning - literal, interpretive and applied.

6. Finally, additional administrative support of CAR was demonstrated by the development and use of a lesson planning book based on CAR concepts and strategies. This planning tool was designed by the assistant principal during the 1980-81 school year and was implemented in the fall of 1981. (See Appendix B for sample pages.) Each teacher was expected to use the planning book on a regular basis throughout the school year. On a scheduled basis each teacher's lesson plans were reviewed by the building principals. A specific form was devised to facilatate this review of the teacher's lessons. In addition a complementary form was devised for observation of the teacher's implementation of the lesson plans (See Appendix C).

III. EVALUATION

When evaluating the goals and objectives of the Content Area Project a variety of procedures and instruments was used.

A. TRAINING MODULE AND REVIEW SESSIONS

At the end of each four-day workshop both a written and oral review of the workshop was conducted. A two page reaction survey was used for this purpose. The first 14 items focused on trainer behaviors that demonstrated desirable content area principles and practices. The second set of 10 items centered on the organization and the relevance of the workshop, and the last section was open-ended in which the participants could indicate their perceptions of the strengths and weaknesses of the workshop. A copy of the instrument can be found in Appendix D. Data generated by this instrument were used by the trainers to evaluate the impact of the workshop and to make adaptations for following workshops.

As part of the training design workshop participants were brought together for one-half day review sessions. These sessions were scheduled after the trainees had an opportunity to use their newly developed CAR materials in their classrooms. In format, each teacher-trainee made a short presentation of their unit and then gave a critique of the successes and failures in using the CAR materials. These review sessions were also used to provide teacher-trainees opportunities to react to the overall project and to make suggestions for improvement.

B. IMPLEMENTATION STRATEGIES

Two procedures were followed to determine the degree and extent of teachers' use of CAR units. In the second year of the project teachers who had been trained in CAR were required to develop additional CAR units. In the third year the two building principals devised a review procedure to determine the application of CAR principles and strategies to the on-going units of instruction. In addition, end-of-year tests in four academic areas were analyzed at the end of the second year in light of three levels of student behavior: literal, interpretive, and applied.

C. TEACHER ATTITUDES

To determine teacher reactions toward the philosophy and strategies of content area reading, two attitude scales were administered to all the teachers and administrators who had been trained during the project. The instruments used for this purpose were adapted from the Statements Survey: Reading in the Content Area and the Situations Survey: Reading in the Content Area developed by the Pennsylvania State University and used to evaluate a state sponsored content area reading project. In the literature, the development and validation of these instruments are reported. For our purposes the basic format of the instruments including directions, number of items, and phrasing of items was followed. The content of some items, however, was changed to reflect the nature, purposes, and emphasis of the Cosgrove content area project (see Appendix E).

D. STUDENT ATTITUDES

To determine student reactions toward their main academic disciplines the Estes Attitude Scales was administered to all eighth grade students in April of the third year of the project. The Estes scale has been carefully developed and validated as an attitude measure. The scale was administered only to eighth grade students who have been taught by some teachers who had had experience with CAR for two or more years. The scale contains fifteen statements for each of five areas - English, Math, Science, Social Studies and Reading (See Appendix L).

E. STUDENT ACHIEVEMENT

To determine student achievement in the areas of math, science and social studies, locally developed criterion referenced tests were used on a pre-post basis (see pp. 2-3 above for information on development and validation of these instruments). To determine growth in reading and math the Metropolitan Achievement Test, 1970 edition, was administered on a pre-post basis. This widely used instrument has gone through an extensive validation process and has been used in the district since 1973.

F. COST EFFECTIVENESS

The major costs of this project are in the development and implementation of content area reading. Once the teachers are retrained and the project is fully installed, it is anticipated that there will be little, if any, additional operational costs. Major development/implementation costs will center on providing substitutes for freeing target teachers for planning, training and evaluating; for consultant honoraria; for additional typing and printing and for training materials.

PART III: RESULTS

FORMATIVE EVALUATION

A - EFFECTIVENESS OF TRAINING MODULE

B - EFFECTIVENESS OF IMPLEMENTATION

SUMMATIVE EVALUATION

C - ASSESSMENT OF TEACHER ATTITUDES

D - ASSESSMENT OF STUDENT ATTITUDES

E - ASSESSMENT OF STUDENT ACHIEVEMENT

F - COST COMPARISON

FORMATIVE EVALUATION

A. EFFECTIVENESS OF TRAINING MODULE

In the first year (1979-1980) eighteen teachers, administrators and support staff were trained. This original training group was largely composed of volunteers. As the project proceeded, first choice of participation was given to volunteers with additional personnel required to attend. By the end of the third year (1981-1982) the entire faculty of approximately forty professionals had participated in the CAR workshops.

At the end of each training session a short evaluation form was completed by each participant. The results of this evaluation instrument are summarized in Table 2. As indicated by the percentages of responses of the first group of participants, reactions to the training workshops were quite positive. Most responses tended to be in excess of 75% positive. The exceptions were items five, seven and nine which referred to definition of tasks, assistance given, and the motivation of the participants. In spite of requiring teachers to participate in later workshops, responses continued to be very positive, generally exceeding 80%.

TABLE 2

WORKSHOP EVALUATION - PERCENTAGE OF RESPONSES TO PART 1

GROUP	1		2		3		4		5	
DATE	12/79		3/80		10/80		3/81		10/81	
PARTICIPANTS	N=9		N= 9		N=8		N= 5		N=6	
RESPONSES	YES %	NO RS %	YES %	NO RS %	YES %	NO %	YES %	NO %	YES %	NO %
1	78	22	90	10	100		100		100	
2	100		100		100		100		100	
3	100		100		100		100		100	
4	89	11	100		100		100		83	17
5	67	33	90	10	88	12	100		100	
6	78	22	100		88	12	100		100	
7	67	33	70	30	75	25	100		100	
8	78	22	60	40	88	12	100		100	
9	56	44	70	30	88	12	75	25	83	17
10	89	11	90	10	100		75	25	100	
11	100		80	20	100		100		100	
12	78	22	90	10	100		100		100	
13	78	22	80	20	100		100		100	
14	100		100		100		100		100	

Beginning with the third workshop, participants were asked to respond to various organizational features of the training. As indicated in Table 3 the responses were quite positive. Item C referring to relevance (mean score = 2.8) and item G referring to use of topics in one's own setting (mean score = 2.8) were not favorably responded to by persons in the last workshop. Overall the mean response of participants to the ten items in workshop three was 3.98; in workshop four, 3.97; and in the fifth workshop, 3.63.

TABLE 3

WORKSHOP EVALUATION
MEAN RESPONSES TO PART 2

GROUP	3	4	5
DATE	10/80	3/81	10/82
PARTICIPANTS	N=8	N=4	N=6
A	4.6	4.2	4.5
B	4.2	4.	3.8
C	4.4	4.	2.8
D	4.2	3.7	3.3
E	4.	3.2	4.
F	4.	4.7	3.8
G	3.8	3.7	2.8
H	3.8	3.7	3.5
I	3.7	4.	4.
J	3.1	4.5	3.8
TOTAL	39.8	39.7	36.3
MEAN	3.98	3.97	3.63
RANGE	3.1-4.6	3.2-4.5	2.8-4.5

Possible Range = 1-5

As part of the evaluation at the end of each workshop, participants were asked to comment and make suggestions about the strengths and weaknesses of the training sessions. In general the responses tended to be quite favorable. Throughout the five workshops participants referred to the "good leadership" and "well organized" aspects of the workshops. Comments were made on the "good use of previous workshop participants" as well as the "good resource persons". On the negative side, the main concern expressed was a need for "more time to work on CAR units". Another major concern was the difficulty involved in preparing for leaving classes with substitute teachers. Typical of suggestions made was using time in the summer both for training purposes and for developing additional materials.

REVIEW SESSIONS

After the participants had completed their materials and had used them in their classes, teachers were brought together for one-half day review sessions. The format of these meetings consisted of sharing by each participant of his/her experiences using CAR materials and strategies. Discussion then followed on the strengths and weaknesses of CAR and the need for additional follow-through, such as summer curriculum work and department articulation. The experiences of the teachers with CAR generally were quite favorable. Positive comments were made on the use of vocabulary exercises and 3-level guides. Increased communication among faculty members and within departments was frequently cited. Many teachers noted they became aware of the need to provide different kinds of materials for their students.

On the negative side were difficulties in constructing structured overviews and 3-level guides. The time needed to construct materials and to implement such materials in the classroom was a continued matter of concern. As teachers shared their successes and failures in incorporating CAR into their on-going curriculum, math teachers, in particular, questioned the use of CAR on a regular basis. The application of CAR to word problems was clearly perceived as an advantage; but in other areas in math, responses were not favorable. The review sessions provided workshop participants with an opportunity to share their experiences, to receive support from their peers, and to receive further direction and encouragement from workshop leaders. Information so gleaned was used to enhance the implementation of CAR throughout the school.

B. EFFECTIVENESS OF IMPLEMENTATION STRATEGIES

Year One:

In the first year of the project, several faculty meetings were held to provide background and motivation for becoming involved in the building-wide staff development. Emphasis in particular was centered on the various Regents requirements to identify early students with learning difficulties and to provide effective remedial services so that all students could establish competency in the three priority areas of reading, writing and math. The content area reading project, involving teachers from all disciplines, was presented as one of the major ways for meeting the Regents requirements.

Year Two:

At the beginning of the second semester of the second year of the project, emphasis was placed on the further development of CAR units. Teachers could work individually or as a department team in the construction of new units. Two teacher-facilitators were made available to assist teachers and to monitor the teachers' work. Most teachers completed at least one additional unit with its various subcomponents.

These materials indicated an understanding of basic concepts of CAR. Some teachers prepared extra units and/or unit components. Some teachers not only achieved conceptual clarity, but they also applied the concepts creatively. Most teachers responded positively to individual consultation and feedback. A number of teachers indicated a willingness and a desire to add imput into future implementation of CAR.

During this second year, the requirements regarding the number of units were not precise and clear. Because of unclear individual/group goals, accurate monitoring of required units was difficult. As units were turned in, lack of an organized filing system resulted in monitoring and communication problems. As a result, some teachers did not receive feedback on their units. In addition, a number of teachers did not meet the deadlines and objectives.

Year Three:

In the third year of the project more precise and realistic goals were set. In brief, the teachers who had been trained in CAR were required to develop one additional unit per semester. Deadlines were established and continued teacher-facilitator help was provided. Use of the Superintendent's Conference Day as well as release from study hall and other monitoring duties were provided for teachers to work on their units.

Examinations

Final examinations given in June of 1981 were reviewed to assess the levels of questioning. As indicated in Table 4 there was little commonality among departments; and there was little balance among the various levels of questioning - literal, interpretive, and applied. In addition, there was no pattern from one grade level to the other.

TABLE 4

ANALYSIS OF FINAL EXAM/RESULTS

1981-1982

		1981 Final			% of Students		1982 Final			% of Students	
		Lit	Int	App	Pass	Fail	Lit	Int	App	Pass	Fail
MATH	7	22%	71%	7%	70%	30%	5%	88%	7%	64%	36%
	8	18%	75%	7%	83%	17%	10%	80%	10%	85%	15%
ENGLISH	7	42%	33%	25%	81%	19%	34%	46%	20%	74%	26%
	8	61%	2%	37%	97%	3%	21%	22%	57%	93%	7%
SOCIAL STUDIES	7	55%	33%	12%	79%	21%	55%	33%	12%	74%	26%
	8	72%	23%	5%	90%	10%	47%	53%		88%	12%
SCIENCE	7	82%	17.5%	.5%	83%	17%	59%	41%		80%	20%
	8	76%	20%	4%	79%	21%	61%	25%	14%	90%	10%

In the fall of 1981 these results were reviewed with the faculty. Based on the analysis, teachers were asked to design mid-term exams following these criteria: Literal questions - 60 percent or less; Interpretive and Applied - 40 percent or more. Department tests observing these criteria were developed, reviewed and returned to the teachers for revisions and/or administration. In January, 1982, two faculty meetings were scheduled to consider ways to interpret and use the information generated by the mid-term examinations. During the spring semester the teacher-facilitator and the building principals continued to work with staff on developing carefully designed testing instruments. Information on the use of test matrices and tables of specifications was provided and teachers were encouraged to use these procedures in the construction of their final examinations in June of 1982.

As indicated in Table 4, seven of the eight final examinations met the established criteria that at least forty percent of the test items should fall at the higher levels - interpretive and applied. One exception was the Eighth Grade Science exam that had thirty-nine percent of its items classified at the ligher levels. In the opinion of the teachers, especially in English, Social Studies, and Science, the 1982 final exams were much more difficult than the 1981 versions. In spite of the apparently more difficult exams, there were generally only slight increases in the student failure rate in 1982 as compared to 1981.

In the 1982-83 school year efforts to improve test construction will continue. All staff will be expected to develop a matrix of their mid-term and final examinations. The matrix will identify main concepts, the number of questions for each concept, and the levels of questioning. With these improvements in test construction, it is hoped that student performance on these more difficult tests will also improve as teachers continue to incorporate strategies requiring higher level thinking in their instruction.

PLAN BOOKS AND INFORMAL OBSERVATIONS

Lesson plan books, specifically designed to foster CAR principles and practices, were distributed to and used by the entire staff at the beginning of the third year of the project. These CAR plan books were reviewed by the building principals in the fall and in the spring. Both oral and written comments on teacher use of this management tool were shared with the staff. In addition, informal visitations, over and beyond the contract, were made to the classrooms. The CAR observation form was used to help focus attention on desirable CAR practices. The kind and level of questions, for example, were noted, classified, and discussed with the teachers. Teacher reactions to the use of the plan books were solicited. Their responses tended to focus mainly on format rather than content issues. As a result, several minor changes in layout of the plan book were made.

A variety of implementation strategies was employed to further the implementation of CAR. In addition to the ones just described a summer curriculum project was approved and carried out. Subject area teachers worked with one or more of the teacher-facilitators to develop or to refine CAR units.

As indicated by the timely completion of units that met CAR requirements, responses of teachers were much more positive. In addition, teachers were using their newly developed materials on a more regular basis. In this third year of the project, no serious problems were noted. There are a few teachers who do not see the value of CAR for their particular disciplines, but the vast majority of the teachers view the philosophy and strategies that comprise CAR in a favorable light. As teachers continue to develop understanding and competence in using CAR, more flexible and creative uses of CAR can be expected.

SUMMATIVE EVALUATION: Analysis of the Data[I]

The Major Goals of This Project

A third major goal of this project was to evaluate its effectiveness in terms of teacher and student attitudes and behavior. In sections C and D the purposes of this study are (1) to explore the attitudes of junior high school teachers toward content area reading and (2) to investigate eighth grade students' attitudes toward reading and four major school subjects. Attitudes of both teachers and students were assessed through the use of self-report attitude scales.

[I] The following sections of the study, C and D, were based on research conducted by a graduate student at SUNY Brockport in partial fulfillment of requirements for a Master's degree in the reading department.

C. Assessment of Teachers' Attitudes

Responses to all items of both attitude surveys were adjusted so that they could be scored on a continuum from negative to positive (low to high scores). Four scores were tabulated for each item. The Statements Survey yielded one score and provided a direct measure of teachers' attitudes toward theoretical statements about content area reading. The Situations Survey provided three somewhat indirect scores. One score indicated teachers' general attitudes toward the use of content area reading strategies in specific situations. Two additional scores, the feasibility score and the perceived skill score, were obtained through responses to separate questions following each situation and plan.

Items of the Statements Survey and the Situations Survey were grouped by the investigator into four categories for analysis--diagnosis, structure and organization, processes and skills, and evaluation. Diagnostic items included references to teachers' need to assess the skills necessary in a particular subject and students' mastery of the necessary skills (Statements Survey, items 6, 7, 9, 19 & 21; Situations Survey, item 1). Structure and organizational items referred to adapting materials to students' abilities, motivating and grouping students for instruction, and pre-teaching concepts and skills (Statements Survey, items 8, 13, 14, 17 & 22; Situations Survey, items 3, 4 & 6). Process and skills items included references to instructional strategies such as the use of vocabulary and study guides, and to instruction in specific study skills (Statements Survey, items 5, 10, 12, 15, 16, 20 & 23; Situations Survey, items 2, 5, 7, 8, 9 & 11). Evaluative items referred to a need to evaluate mastery of both concepts and skills, and a need to use assessment measures which reflect how the content has been taught (Statements Survey, items 4, 11 & 18; Situations Survey, items 10 & 12).

The data generated by these two scales can be best considered in terms of a series of questions. After an extended inservice training program, what are junior high school teachers' attitudes toward content area reading, how feasible do they feel such instruction is, and how confident are they about their abilities to include content area reading instruction in their classes? What specific strategies and techniques do the teachers consider to be useful or to have little value?

The first question asked what were the attitudes of junior high school teachers toward content area reading. Analysis of responses to the Situations Survey and the Statements Survey indicated that nearly

sixty percent of the total responses were strongly positive and nearly ten percent were strongly negative. Table 5 displays the mean percentages of teachers' responses to each category of items on the two surveys. Strongly positive attitudes were indicated by over fifty percent of the teachers for thirteen of the sixteen grouped scores. All four scores for the evaluation items and the skills items indicate strongly positive responses from over sixty percent of the teachers. Fewer strongly positive responses were noted in the feasibility and the perceived skill scores for diagnostic items, and for organizational items of the Statements Survey. Less than ten percent of the teachers expressed strongly negative attitudes toward any category of items on the Statements or Situations surveys. More negative responses were expressed to the questions about the feasibility of suggested plans than to the questions about perceived skill or to the statements and situations.

The second question asked which specific content area reading strategies and techniques teachers judged most useful. (Appendices G and H indicate the percentages of teachers' responses to items on the Statements Survey and the Situations Survey.) Over seventy percent of the teachers expressed strongly positive attitudes toward the following concepts:

Diagnosis

1. Teachers should be able to identify skills and processes needed by students to master specific content.

2. It is important for teachers to be able to identify students who have difficulty with unfamiliar words.

Organization

1. Teachers should consider the reading levels of students when selecting classroom materials to use or to adapt.

Skills

1. Teachers should teach the reading/thinking skills needed in their subject areas.

2. It is appropriate for teachers to match their teaching strategies to the identified needs of their students.

3. Needed skills such as identifying relevant details, following a sequence, using problem solving techniques, interpreting graphs and charts, locating information, compiling a bibliography, taking notes, and organizing a research paper should be pre-taught as the need arises.

Table 5

Mean Percentages of Teachers' Responses

To Attitude Surveys

	Statements Survey		Situations Survey					
			General Attitude		Feasible		Perceived Skill	
Category	Strongly Positive	Strongly Negative	Strongly Positive[a]	Strongly Negative[b]	Yes	No	Skilled	Unskilled
diagnosis	57	8	53	3	40	28	40	15
organization & structure	38	8	60	6	57	13	60	5
skills & processes	63	5	70	3	60	16	67	9
evaluation	70	4	64	10	65	11	71	8

a. Responses of six and seven on the scales were considered strongly positive.

b. Responses of one and two on the scales were considered strongly negative.

4. It is necessary for teachers to identify and teach key concepts and vocabulary that are specifically needed in a unit of instruction.

Evaluation

1. Teachers should assess mastery of both content and skills needed in their subject areas.

2. Tests should be designed to measure mastery of specific information, interpretation, and application of concepts.

The third question asked what specific content area reading strategies and techniques had little usefulness, according to the teachers. (Appendices G and H indicate teachers' negative as well as positive responses to the Statements Survey and the Situations Survey.) Ten percent or more of the teachers expressed strongly negative attitudes toward the following ideas.

Diagnosis

1. Content teachers should develop skill in assessing students' abilities to use concept statements and structured overviews.

Organization

1. Teachers should instruct students in how to use structured overviews and concept statements.

2. Teachers should use concept statements and structured overviews to assist students in comprehending difficult material.

3. Teachers should provide small group lessons in using study guides.

4. Teachers should include statements at various comprehension levels on worksheets, study guides, and tests.

5. Teachers should provide appropriate instructional materials for groups of students with differing reading abilities.

Skills

1. When necessary, teachers should instruct groups of students in how to use prefixes and suffixes to help identify unfamiliar words and should provide materials for practice.

Evaluation

1. As a review technique teachers could provide partially developed structured overviews for students to complete.

The fourth question asked how feasible did teachers think content area reading strategies and techniques were in suggested situations. Responses to this separate question were noted for each of the situations and suggested plans of the Situations Survey. (Appendix I notes the percentages of these responses as feasibility scores.) Fifty percent or more of the teachers expressed strongly positive attitudes toward the feasibility of eight of the twelve situations. These situations involved pre-teaching needed study skills and vocabulary, considering students' reading levels when selecting materials, grouping students for assistance in vocabulary and concept development, and evaluating mastery of concepts on literal, interpretive, and applied levels. Strongly negative attitudes were expressed by ten percent or more of the teachers toward the feasibility of eight of the twelve situations. These situations involved diagnosing students' skill levels, grouping students for special instruction, considering reading levels of students when selecting materials, and using concept statements and structured overviews for instruction or review. The data indicates that for two items, only twenty-thirty five percent of the teachers gave strongly positive responses while thirty five-forty five percent or more of the teachers gave strongly negative responses.* Strongly negative attitudes were more often expressed to these questions than on the initial scales for each situation and plan.

The fifth question asked how confident teachers felt about their ability to include content area reading instruction in their classes. (The perceived skill scores, responses to a separate question asked about each item on the Situations Survey, are indicated in Appendix J.) Strong feelings of confidence in their own skill were expressed by over fifty percent of the teachers for ten of the twelve suggested situations and plans. Teachers indicated confidence in their abilities to organize and plan instruction, teach needed skills, and evaluate students' mastery of concepts and skills. However, a lack of confidence was noted in diagnosing students' skill levels and needs, individualizing assignments for groups of students within a class, and using structured overviews for review.

D. Assessment of Students' Attitudes: Findings and Interpretations

The data generated by the Estes Attitude Scales can be considered in terms of several questions. What are the attitudes toward English, math, reading, science and social studies of eighth grade students who have been exposed to content reading instruction? Are there significant differences between the attitudes of the boys and girls or between these students and the norms for the Estes Attitude Scales?

The first question asked what were the attitudes toward English, math, reading, science, and social studies of eighth grade students who have been exposed to content area reading instruction for one or more years. All mean scores fell within the positive range and represent fairly typical attitudes toward basic school subjects (Estes, Estes, Richards & Roettger, 1981). The most positive attitudes were expressed toward math, followed by reading, science, English, and social studies, respectively.

*These situations involved grouping for instruction (Item 5) and teaching structural analysis of words (Item 8).

The second question expressed as a null hypothesis, stated that there are no significant differences between the attitudes of eighth grade boys and girls toward English, math, reading, science, or social studies. A t test for independent means was used to analyze the data. (Table 6 presents the analysis of mean scores for boys' and girls' attitudes toward school subjects.) The null hypothesis was rejected for three subject areas. However, data failed to reject the null hypothesis for two subject areas. Girls had significantly more positive attitudes than boys toward English and reading. Boys, however, had significantly more positive attitudes than girls toward science. There were no significant differences in boys or girls attitudes toward math or social studies.

The third question, expressed as a null hypothesis, stated that there are no significant differences between the attitudes of eighth grade students in this study and students of the norming population for the Estes Attitude Scales (Appendix K). Table 7 presents the analysis of mean scores of combined student attitudes toward school subjects. The data failed to reject the null hypothesis for the area of English in which t tests indicated no significant difference. The hypothesis was rejected, however, for the areas of math, reading, science, and social studies. The mean scores of subjects of this study fell at the following percentile ranks on the national norms--English, 50th; math, 41st; reading, 35th; science, 45th; and social studies, 30th. Students in this study indicated significantly less positive attitudes toward math, reading, science, and social studies than did the norming population. In terms of a scaled score (T-score) the mean score of subjects of this study in all five areas is 48, with a range of 46-50, thus falling well within the positive range and representing fairly typical attitudes toward school subjects. (See Estes, Student Profile Chart in Appendix L.)

Summary

This study investigated the attitudes of junior high school teachers and students after participation in an extended content area reading program. Item analysis of the Situations Survey and the Statements Survey indicated that nearly sixty percent of the total responses were strongly positive and nearly ten percent were strongly negative. Seventy percent or more of the teachers responded positively to eight of the twelve items of the Situations Survey and to seventeen of the twenty items in the Statements Survey.

Teachers' attitudes about the usefulness of specific content area reading strategies and techniques were investigated. Teachers expressed positive attitudes toward the identification of learning skills needed by students and of students abilities to use those skills. Teachers also felt positively about considering students' reading levels when selecting and adapting materials, about matching instruction to the needs of students, and about teaching reading and thinking skills as they are needed in classes. In addition, teachers indicated positive

Table 6

Comparison of Mean Scores of Boys' and Girls' Attitudes Toward School Subjects

Group	English	Math	Reading	Science	Social Studies
Girls (n=140)					
mean	54.19	55.21	56.08	51.52	48.34
SD	7.10	7.51	9.42	8.27	10.30
Boys (n=140)					
mean	50.26	55.01	50.25	54.33	48.99
SD	7.23	8.29	9.93	7.12	9.84
t	4.04*	.21	5.04*	3.05*	.53

Note: Possible range = 15-75

crit. t (280) = 2.58, *p. < .01

Table 7

Analysis of Mean Scores of Combined Students' Attitudes Toward School Subjects.

Group	English	Math	Reading	Science	Social Studies
Student-subjects (n=280)	52.23	55.11	53.16	52.93	48.66
Norming sample for Estes Attitude Scales (n=1,815)	52.	57.	57.	54.	53.
t	.54	4.02*	6.64*	2.32*	7.21*

Note: Possible range = 15-75

crit. t (∞) = 1.96, * p < .05

attitudes toward evaluating students' mastery of concepts and skills on three levels of comprehension--literal, interpretive, and applied. However, teachers in this study expressed strongly negative attitudes toward using structured overviews for instructional or review purposes, grouping students within classes for special instruction, teaching and providing practice materials for word analysis, and including various comprehension levels on worksheets and study guides.

This study also explored teachers' attitudes toward the feasibility of including content area reading in their classes. When asked how feasible specific content area reading plans were, fifty percent or more of the teachers responded with strongly positive attitudes to eight of the twelve situations. However, strongly negative responses were also noted by over ten percent of the teachers to eight of the twelve situations.

Perceived skill scores indicated teachers' confidence in their ability to carry through with suggested content area reading plans. Confidence in their own ability was expressed by over fifty percent of the teachers for ten of the twelve situations. Lack of confidence was indicated by ten to twenty percent of the teachers for four plans involving diagnosing students' skills, grouping students for instruction, and using structured overviews for review.

Students in this study held positive attitudes toward reading and four major subject areas. The most positive attitudes were expressed toward math, followed by reading, science, English, and social studies. Girls indicated significantly more positive attitudes than boys toward English and reading, while boys indicated significantly more positive attitudes than girls toward science. No significant differences were noted in attitudes of boys or girls toward math or social studies. Even though all mean scores fell within the range of typical attitudes toward school subjects, students in this study indicated significantly less positive attitudes toward math, reading, science, and social studies than did the norming population of the Estes Attitude Scales.

E. Student Achievement

Another aspect of the third major goal of the CAR project was to evaluate its effectiveness in terms of student behavior. In Section E the purposes of this study are to investigate eighth grade students' achievement by means of national, state, and local tests.

1. Comparison of Student Achievement in 1982 with Student Performance in 1977

In the 1973 school year and again in 1977, detailed studies of Metropolitan Achievement Test (MAT) scores in reading were conducted at critical check points, including grade 8. Data yielded by the MAT's in last spring's testing were analyzed and compared with the 1977 MAT results to determine progress, if any, in student performance. The data generated by these two studies are presented in Table 8 followed by a short summary of the findings.

Two standards will be used to assess the data. First of all, national norms will be used to provide an external norm against which to evaluate the reading achievement of Spencerport students. More specifically, the appropriate grade level norm - e.g., 8.8 indicating the eighth month of the child's eighth grade, will be used to compare the performance of Spencerport students with those in the norm group. Secondly, a more sensitive ability standard will be used. Aptitude data provided by the Otis-Lennon Test of Mental Maturity will be compared with achievement data provided by the MAT. As a rule of thumb, with large groups of students, a one-half stanine difference is considered significant. Ideally with 100 or more students, there should be a one:one correspondence between ability and achievement. To make such comparisons possible the stanines for both the Otis-Lennon and the MAT have been computed and carried out to one decimal place.

Table 8

Comparison of Student Achievement in Reading in 1977 with 1982
Grade 8: Multi-Level Metropolitan Achievement Test ('70 ed.)

		1977			1982		
A.	Total Number of Students		376			324	
B.	Mental Ability	IQ	%ile	Sta.	IQ	%ile	Sta.
	1. Otis-Lennon: Mean	106	64	6.5	111	75	6.5
	Range	73-140	5-99	2-9	75-147	5-99	2-9
	2. Types of Students:		#	%		#	%
	High (7-9 stanine)		128	34		159	49
	Middle (4-6)		218	58		145	45
	Low (1-3)		30	8		20	6
						316	
C.	Performance	GE	%ile	Sta.	GE	%ile	Sta.
	1. Reading (total): Mean	8.4	50	5.5	9.8	66	6
	Range	3.0 - 9.9	1-99	1-9	3.2-9.9+*	1-96	1-9
	1a. Types of Readers:		#	%		#	%
	High (7-9)		80	21		102	32
	Middle (4-6)		242	64		193	61
	Low (1-3)		58	15		21	7
	2. Wd. Knowledge:	GE	%ile	Sta.	GE	%ile	Sta.
	Mean	9.1	54	5.7	9.7	60	6
	Range	3.2-9.9	1-98	1-9	3.0-9.9	1-99	1-9
	2a. Types of Readers:		#	%		#	%
	High (7-9)		81	21		80	25
	Middle (4-6)		251	66		214	68
	Low (1-3)		50	13		22	7
	3. Comprehension:	GE	%ile	Sta.	GE	%ile	Sta.
	Mean	8.4	50	5	9.5	65	6
	Range	2.4-9.9	1-99	1-9	3.3-9.5	2-99	1-9
	3a. Types of Readers:		#	%		#	%
	High (7-9)		78	20		118	37
	Middle (4-6)		241	64		175	56
	Low (1-3)		63	16		23	7

*9.9 represents the test ceiling of the MAT

Findings - Grade 8

- The overall abilities of the two groups fall within the high average range (stanine 6) with an edge (five IQ points) for the 1982 group. The 1982 group also has a considerably larger percent of students scoring in the higher ranges (stanines 7-9). Both groups have a relatively low percent of students falling in the lower three stanines.

- The total reading achievement of the 1982 group (9.8) exceeds the grade level standard (8.8) in contrast to the 1977 group (8.4) which falls below the grade level standard and also the 1982 group.

- Comparing ability to performance, we note both groups underachieved. The 1977 group underachieved by a 1.0 stanine difference and the 1982 group underachieved by a .5 stanine difference.

- The pattern of achievement scores for the different levels of students differs considerably from the ability levels. In 1977, 21% of the students achieved in the top 3 stanines in contrast to 34% who fell within the top ability range. In the lower 3 stanines the percent (15) falling into the low category exceeded the percent (8) of the low ability students. In 1982, 49% of the students fell into the high ability group in contrast to 32% in the top achievement group. In the lower three stanines in both achievement (7%) and ability (6%) the percent of students in 1982 was approximately the same.

Overall Analysis

The 1977 group did not meet national norms, nor did they meet their potential. The 1982 group performed above national norms and out-performed the 1977 group but did not perform to their potential. The difference between ability and performance, however, has decreased. In contrast to 1977, the percent of students performing in the lower three stanines parallels the percent of students in the lower ability range.

2. Regents Competency Tests

In the spring of 1979 the State Education Department, responding to the public's concern for academic achievement in the schools, introduced the Regents Competency exams. These criterion referenced tests measure basic skills in the three priority areas of reading, writing, and math.

These new state tests have a twofold purpose: 1) to serve as one of the required conditions for receiving a high school diploma and 2) to serve as an early warning system to identify students needing additional instruction in basic skills. As early detectors of students requiring remediation in basic skills, the Preliminary Regents Competency Tests in reading and writing are administered in early spring to eighth grade students.

In Table 9 the results of Spencerport students for the past three years (1978-1982) in reading and writing are presented.

Table 9

Overall Results on the Preliminary Regents Competency Tests - 1980-1982

	Reading		
	1981-82	1980-81	1979-80
# Tested	319	304	367
# Passing	301 = 94%	287 = 94%	349 = 95%
# Failing	18 = 6%	17 = 6%	18 = 5%
	Writing		
	1981-82	1980-81	1979-80
# Tested	319	304	367
# Passing	280 = 88%	249 = 82%	261 = 74%
# Failing	39 = 12%	55 = 18%	106 = 26%

In the area of reading the state introduced a new testing instrument called the Degrees of Reading Power to determine minimum levels of functioning. At this writing the state has not developed and made available any data to compare Spencerport's achievement with appropriate reference groups. The trend line data presented in Table 9, however, indicates that Spencerport students in reading have consistently performed quite well (94-95%) on this new testing instrument. Generally on a criterion referenced test a passing standard of 80 percent is considered acceptable.

In the writing area the trend line data indicate steady improvement from 1980 to 1982 in which the percent of students meeting state standards increased from 74 percent to 88 percent. The state standard for passing in writing is 65 percent.

Though the primary purpose of these preliminary tests is to identify students in need of remedial help, they do give some indication of the overall performance of students. The data suggest that Spencerport students in those two complementary language arts areas are performing quite well.

3. Local Criterion Referenced Tests (CRT's)

At the early secondary level Spencerport's commitment to a Diagnostic-Prescriptive approach focused on the development of three content area

tests. These diagnostic instruments in math, science and social studies were based on a set of common process skills identified by teachers in the three disciplines.

These three tests, developed in the summer of 1976, follow a multiple choice format based on skills common to the four disciplines but using material unique to math, science, and social studies. In August of 1979 a three-year data base for establishing local norms was completed. These norms were compared to an arbitrary passing standard of 75 percent. Table 10 presents the percent of students meeting this critical cut-off point in each of the three areas of math, science and social studies at the beginning and end of seventh grade and at the end of eighth grade.

As the Table indicates, there is a definite progression from the beginning of seventh grade through the end of eighth grade in the percent of students meeting the 75 percent mastery standard. In the science area, for example, approximately one third of the beginning seventh graders demonstrated mastery; one half of the end of seventh graders; and two thirds of the end of eighth graders.

Table 10

Comparison of Student Performance Based on Diagnostic Standard (75%) of Present (1982) Eighth Graders versus Norming Population (1976-1979)

	MATH Critical Cutting Score = 77 (75% of 102 Items)			SCIENCE Critical Cutting Score = 93 (75% of 124 Items)			SOCIAL STUDIES Critical Cutting Score = 62 (75% of 83 Items)		
	7th Begin	7th End	8th End	7th Begin	7th End	8th End	7th Begin	7th End	8th End
% of Students Passing (Norming Population 1976-1979)	17	29	47	38	52	65	23	36	49
% of Students Passing (Present 8th Graders)	14	41	59	39	63	84	24	72	77
	- 3	+12	+12	+ 1	+11	+19	+ 1	+36	+28

Table 10 also presents the percent of present eighth grade students meeting the 75 percent standard in each of the three areas (math, science, and social studies) at the beginning and the end of seventh grade (1980-81) and at the end of eighth grade (1982). At the beginning of seventh grade there is little difference between the present eighth grade students and the students in the norming population in regard to the percent of students meeting the 75 percent passing standard. In the math area, for example, the present eighth graders had three percentage points (14%) fewer than the norming population (12%) meeting the standard, whereas in the science and in the social studies areas, there was only one percentage point difference in favor of the present eighth graders.

At the end of the seventh grade the present eighth graders not only improved, but clearly out-performed the comparable students in the norming population with percentage points ranging from eleven (11) to thirty six (36). At the end of eighth grade the superiority of the present eighth graders over the norming population continued as follows: math (59% versus 47% - a difference of 12 percentage points); science (84% versus 65% - a difference of 19 percentage points); and social studies (77% versus 49% - a difference of 28 percentage points).

In Table 11 there is a comparison of mean scores on the CRT's between the norming population and the present eighth graders.

Table 11

Comparison of Mean Scores on Cosgrove Criterion Referenced Tests (CRT's) between Present Eighth Graders (1982) and Norming Population (1976-1979)

	Spencerport Norming Population (n = 1123)	1982 Eighth Grade (n = 306)
	Mean Percent Correct	Mean Percent Correct
Math - 102 test items		
Beginning 7th	55	58
End 7th	67	69
End 8th	75	75
Science - 124 test items		
Beginning 7th	69	69
End 7th	76	77
End 8th	80	82
Social Studies - 83 items		
Beginning 7th	63	61
End 7th	70	72
End 8th	76	82

In both the norming population (1976-79) and the present eighth graders (1980-1982), there are definite improvements in the mean scores in the three areas from the beginning of seventh grade through the end of eighth grade. In the math area of the norming population, for example, the mean score went from 55 percent at the beginning of seventh grade to 67 percent at the end of seventh grade to 75 percent at the end of eighth, representing a total increase of 20 percentage points from beginning seventh grade through the end of eighth grade. The present eighth grade in math started slightly higher (58% vs. 55%) and ended with the same mean percentage score (75%). In science both groups started with mean percentage scores of 69 percent with the present eighth graders slightly ahead at the end of eighth grade (82% vs. 80%). In the social studies area the present eighth graders started with a mean of 61% vs. the norming population mean of 63% and clearly out-performed the norming population (82% vs. 76%).

Overall Analysis

In terms of entering performance in the three areas of math, science, and social studies, the present eighth graders both in regard to percent of students meeting the 75 percent passing standard on the locally developed CRT's, approximately one third - and in regard to mean performance - varied according to the test from 58 percent to 69 percent - was quite similar to the norming population. Though both the norming population and the present eighth grade improved both in regard to percentage of students meeting the passing standard of 75 percent and in regard to mean performance, the present eighth graders clearly out-performed the students in the norming population. As noted above in the subsection (E-1) on reading, the overall reading performance of the present eighth graders on the math fell at the 66 percentile. In the math area the overall performance was also quite high - mean percentile score of 74. It appears then that regardless of the testing instrument, that the performance of the present eighth graders is quite high.

F. COST COMPARISON

One of the key features of this CAR plan was the decision to use existing district and building staff to plan, direct, implement and evaluate the various aspects of the project. In Table 12 the major expenses for this three year project are listed.

Table 12

Cost Comparison of CAR

Project: 1979-1982

ITEM	Development/Implementation 1979-80	1980-81	1981-82	TOTALS
1. Personnel Salaries, Wages, Honoraria, and Fringe Benefits				
1.1 Professional Salaries:				
- Substitutes for trainees	$ 3,000	$ 2,415	$ 2,000	$ 7,415
- Substitutes for implementers		3,519	3,725	7,244
1.2 Non-Professional Salaries:				
(Typists)	614	300	250	1,164
1.3 Consultant Honoraria	700	600	500	1,800
2. Instructional Materials	180	72	120	372
3. Totals	$4,494	$6,906	$6,595	$17,995

As indicated in Table 12, most of the costs in developing and implementing the Content Area Reading Project was in the area of professional salaries and in particular to pay for substitutes to free up the regular teacher to participate in the project. Typically, each teacher received four days of intense instruction plus participating in ½ day planning and review sessions for a total of five days. Not all teachers, especially specialized personnel such as guidance teachers, did not require replacements. In the spring of the second year of the project (1981), a classroom teacher was released from his regular

teaching assignment for one period daily on twenty percent of his time to assist other teachers in implementing the project. In the fall of 1981, the beginning of the last year of the project, the building reading resource teacher was reassigned to devote a major share of her time in helping teachers implement the project. Since this teacher had been approved for a sabbatical leave in the spring, a substitute reading teacher was hired, at little additional cost, to work sixty percent of her time for the entire year rather than 100 percent for the spring semester. In the spring of 1982 the same arrangement as in the spring of 1981 was followed; a classroom teacher adept in CAR was freed up to assist fellow teachers one period per day.

In the first year of the project a consultant was hired for two days to assist in the initial training of the staff. After this first four day training session the project director and the building reading resource teacher handled most of the instruction. Occasionally one of the teachers who had mastered a specific strategy was invited to participate in the training. Part of the overall strategy was to train the two building principals who then became active in helping to implement CAR. Since staff development is an expected part of the building principals' responsibilities, no attempt is made here to place a dollar value on their time devoted to CAR. This also applies to the Director of Reading.

Since the staff is now trained and the project has been fully installed, it is expected that there will be little additional operational costs. Replacement of, or development of, additional instructional materials, training of new staff and/or key substitutes, occasional use of a consultant and perhaps travel to visit other CAR projects, are likely operational costs that should, however, be quite low. Since CAR requires no new personnel, no new monies for salaries or for fringes are required.

PART IV: CONCLUSIONS/DISCUSSION/RECOMMENDATIONS

The overall purpose of the CAL/R Project was to foster effective instruction in all classrooms at the junior high level. The project was intended to promote instruction based on sound principles and practices of learning as indicated by research and successful content area reading projects. To achieve these goals, staff development activities were designed and implemented to develop teacher awareness of sound content area instruction and to enable all teachers to construct and implement specific strategies such as concept statements, structured overviews, vocabulary exercises and three level guides. The criteria for success were based on each teacher's 1) attitudes toward CAR principles and practices as indicated by various attitude scales; 2) actual development of a unit based on CAL/R principles and 3) each teacher's successful use of the unit in a regular classroom setting as verified by the CAL/R trainers and/or by the building principal.

As a pilot project it was further intended to determine if such instruction is not only effective but cost efficient and thus should be considered for implementation at other levels where content area subjects are taught. The evaluation then of the Cosgrove Junior High Content Area Learning/Reading Project hinges on the responses to two basic questions -

> Has the CAL/R Project successfully met the requirements of effectiveness, cost efficiency and transferability?
>
> Has the project provided verifiable evidence to support its claims?

In this last section of the report the evidence will be considered in terms of generalizations, insights and recommendations. To help in organizing this section a series of questions will be raised and discussed.

FORMATIVE EVALUATION

A. How effective was the training module?

To provide the instruction in the principles and practices of Content Area Reading a four-day training module was designed and used. During the four days of intensive inservice training, teachers and administrators were introduced to such concepts as co-learners, non-assumptive teaching and specific strategies such as concept statements, structured overviews and three-level guides as well as evaluation procedures. By the end of the four days each participant had developed a unit of instruction containing all the key strategies.

As indicated in Part III, pg. 22-24, reactions of the five four-day workshops were very positive (75-80% favorable). Responses to specific aspects of the workshop such as teaching techniques used, relevance of

handouts, and degree of "practical" help were also very positive ranging from 3.1 to 4.5 on a five point scale.

In addition, each participant completed the required unit containing the various content area strategies. Over a three-year period approximately forty Cosgrove Junior High staff received training. Follow-up sessions with staff indicated that all the retrained staff were successful in developing the units.

Based then on the fact that all the participating teachers successfully completed their units according to specifications and based on the favorable responses of teachers to the four-day workshop, it can be concluded that the training provided to the Cosgrove staff was effective. The four-day training module designed for instructing the staff proved to be both effective and efficient. Based on the participants' feedback, changes in the instructional materials and procedures were effected to make the next session of maximum value. As a consequence, the reactions of teachers to the training materials and strategies proved to be highly positive even though the participants in the later workshops were mainly non-volunteers.

B. How effective were the implementation strategies?

To assure that the new insights into the learning process and the newly acquired competencies were actually implemented in the classroom, a number of strategies were employed. First of all each trainee was required to try out his or her newly developed unit with one or more of his or her classes. In review sessions, new trainees shared their successes and failures in using the materials and strategies. Generally these sessions yielded very positive and realistic comments. (see Section III, p. 24). Teachers found that CAR strategies worked with their students but also considerable time and effort were needed to develop them.

To further the teachers' knowledge of and competency in using CAR, development of additional units was required. Teacher facilitators were especially effective in helping their peers to gain deeper insight into CAR and greater facility in constructing CAR units. Though considerable time and effort were required to develop new units, the ready access to and support of the teacher-facilitators helped greatly to assure successful completion of required tasks. Teacher facilitators as well as administrative personnel visited classrooms where CAR units were being used and then discussed with the classroom teachers their observations. Teacher facilitators and administrators were also available to free up a teacher to work on a pressing CAR unit. In addition, teachers were encouraged to submit proposals for summer development of additional units. Many did and were supported in their efforts to develop additional CAR units.

Another key component was the availability of the building reading specialist who served as coordinator of the various units and projects as well as serving on the CAR planning committee. One of those projects that proved to be very effective entailed the analysis of each teacher's and/or each department's final examination in light of three levels of learning or questioning. After the results were shared with the faculty, each teacher and/or each department developed a test matrix that provided for more test items reflecting the higher level interpretation and applied type questions.

To assure that the new procedures for unit construction and evaluation were followed, the building administration designed plan books to assist in the implementation of CAR. Pre and post conferences coupled with informal evaluations re-enforced the classroom use of CAR.

Based then on clearly articulated requirements for developing additional units, based on supportive on-going teacher/facilitator help, based on active and enlightened administrative support, it can be concluded that the implementation strategies used in this project were sound and effective.

These common sense approaches to learning with the focus on what actually happens in the classroom is what Content Area Reading is all about. The teachers are given sound, practical help to make their teaching more productive. The philosophy and strategies that comprise CAL/R apply not just to textbooks but to all the instructional media such as movies and film strips that teachers use for content area instruction. Though change is often painful and difficult, the strategies used in this project seem quite effective. What the teachers were taught in the training sessions was applied in their classrooms. As a result the often heard charges of irrelevancy and impracticality associated with so many staff development projects were practically nil. The newly trained teachers were expected to function differently and they were given much support to do so.

C. How effective was the project in terms of teacher attitudes?

To assess teachers' attitudes toward Content Area Reading, two attitude scales were administered: A Statements Survey and A Situations Survey. The data generated by these two scales are best considered in terms of questions.

C-1. After an extended inservice training program, what are junior high teachers' attitudes toward Content Area Reading?

Analysis of the total responses on both instruments indicated a highly positive response (sixty percent or more). Responses on specific sections of the surveys such as evaluation and skill items, as well as their feasibility and the perceived skill scores, were also positive.

Based then on the teachers' responses to these two inter-related instruments, it appears that the Cosgrove teachers are in basic agreement with the principles and practices that define Content Area Reading.

C-2. What specific Content Area Reading strategies and techniques did the teachers judge most useful?

As reported in Section III, p. 30-32, and in Appendices G and H, a highly favorable response (over seventy percent) was given to the following concepts:

Diagnosis

1. Teachers should be able to identify skills and processes needed by students to master specific content.

2. It is important for teachers to be able to identify students who have difficulty with unfamiliar words.

Organization

1. Teachers should consider the reading levels of students when selecting classroom materials to use or to adapt.

Skills

1. Teachers should teach the reading/thinking skills needed in their subject areas.

2. It is appropriate for teachers to match their teaching strategies to the identified needs of their students.

3. Needed skills such as identifying relevant details, following a sequence, using problem solving techniques, interpreting graphs and charts, locating information, compiling a bibliography, taking notes, and organizing a research paper should be pre-taught as the need arises.

4. It is necessary for teachers to identify and teach key concepts and vocabulary that are specifically needed in a unit of instruction.

Evaluation

1. Teachers should assess mastery of both content and skills needed in their subject areas.

2. Tests should be designed to measure mastery of specific information, interpretation, and application of concepts.

In regard to these various concepts grouped under diagnosis, organization, skills and evaluation, only ten percent of the teachers expressed negative reactions (see Section III, p. 32 and Appendices G and H).

It is quite clear that the data strongly indicates that the Spencerport teachers are favorably disposed to these specific content area strategies and techniques.

C-3. How feasible did teachers think reading strategies and techniques were in suggested situations?

In ten out of twelve situations that sampled various content area applications, the teachers expressed strongly positive attitudes. In particular the teachers responded favorably to situations requiring 1) pre-teaching of study skills and vocabulary, 2) considering students' reading levels when selecting material and 3) evaluating mastery of concepts on various levels. In only two areas -- grouping and teaching structural analysis -- did the teachers respond negatively.

From the viewpoint of feasibility or practicality, the teachers then appear quite favorably disposed to specific content area practices.

C-4. How confident did the teachers feel about their ability to include Content Area Reading instruction in their classes?

In regard to their perceived ability to embed content area instruction into their classes, the teachers were also strongly positive. In ten out of twelve situations over fifty percent of the teachers expressed positive feelings.

Keeping in mind the limitations of this study, the data yielded by the two attitude scales strongly suggests that the teachers have positive attitudes toward the reading philosophies and specific strategies of Content Area Reading.

As Summers (1970) pointed out, multiple indicators should be used for attitude assessment and that there should be some consistency among those indicators. The consistency of the percentages of strongly positive responses, which is seen across all four scores of both the Statements Survey and the Situation Survey, contribute to the conclusion that these responses accurately reflect the teachers' attitudes toward Content Area Reading.

These positive attitudes are in contrast to the negative attitudes reported in the literature regarding the incorporating of reading instruction into secondary classrooms (Estes and Piercey, 1973, and Vaughn, 1977). If, as Dupuis, Askov and Lee (1979) suggest, positive teachers' attitudes are critical to the integration of reading instruction in content classes, then the positive attitudes found here indicate that an important aspect of a successful Content Area Reading program has been established in the Cosgrove Junior High.

D. How effective was the project in terms of student attitudes?

To determine student attitude towards their major subjects, the Estes Attitude Scale was administered to all the Cosgrove eighth graders. Though the Estes' Scale is a valid, reliable instrument, no other indices of student attitude were considered. In addition there were no base line data against which to compare the results from this test administration. As a result, no inferences can be drawn about the desired or expected changes in attitudes. Any generalizations drawn then need to be tempered by these limitations. At best the following conclusions are to be considered tentative rather than conclusive.

D-1. Based on student responses to the Estes Scale, students in this study expressed positive attitudes toward reading and four other major subject areas.

D-2. The most positive attitudes were expressed toward math, followed by reading, science, English and social studies.

D-3. Girls expressed significantly more positive attitudes than boys toward English and reading, while boys indicated significantly more positive attitudes than girls toward science. There were no significant differences noted in attitudes of boys and girls toward math or social studies.

D-4. Though all mean scores fell within the range of typical attitudes toward school subjects, students in this study expressed significantly less positive attitudes toward math, reading, science and social studies.

Though the results yielded by the Estes attitude scale tend to be quite positive, there is definitely room for improvement. Since the overall purpose of Content Area Reading is to foster a better climate for learning, it is expected that many of the strategies used in Content Area Reading will aid in the development of and maintenance of positive attitudes toward school subjects (Herber, 1978). As teachers become more familiar with the requirements of CAR and its philosophy and strategies become more extensively integrated within the instructional system, results yielded by this study can be used as baseline data to help measure desired changes.

E. How effective was the project in terms of student achievement?

In the achievement area there was a number of test scores available to assess student performance. With data available from national, state and local tests, there is greater confidence in drawing conclusions based on a broad data base. Limitations of the test instruments, however, still need to be considered as well as limitations in the research design. No attempt was made, for example, to set up control and experimental groups and to assign students randomly to them to control for changes that naturally occur over time: Given these limitations, the following conclusions appear sound.

E-1. Based on data yielded by the Metropolitan Achievement Test,(MAT), the eighth grade students in this study exceeded the national norms. In contrast to the eighth graders in 1977 who fell four months below the norm (8.8), the 1982 eighth graders exceeded the norm by ten months (9.8).

E-2. Based on a comparison of ability as indicated by the Otis-Lennon Test of mental maturity with achievement (MAT), the 1982 eighth graders underachieved by .5 stanine difference. Though this difference is significant between performance and potential, it does represent an improvement from 1977 when there was a full stanine (1.0) difference.

E-3. In contrast to 1977, the percent of students performing in the lower 3 stanines on the MAT parallels the percent of students in the lower ability range. In the highest ability category there is still a considerable difference between the ability level (49%) and the achievement level (32%).

Regardless of the standards employed, whether national norms or the ability factor, the 1982 eighth graders performed quite well on the Metropolitan Achievement Test. Though there is still room for improvement, the data suggest that the 1982 eighth graders did perform quite well on the MAT.

E-4. Based on an analysis of trend line data (1979-1982) yielded by the State Preliminary Regents Competency Tests in Reading and Writing, the Spencerport eighth graders performed quite well. In the reading area, 74-75 percent of the students passed the eighth grade test and in the writing area,performance has improved from 74 percent passing in 1979-80 to 88 percent in 1981-82.

Though the data does indicate that Spencerport students did perform quite well on these two complementary language arts tests, caution should be exercised in attributing such successes to CAR alone. Certainly the emphasis upon content area helped create a favorable atmosphere for learning, but other factors such as increased emphasis on writing are probably more significant in accounting for the improvement in writing.

E-5. Based on locally developed criteria referenced tests in math, science, and social studies, Spencerport students also performed very well.Though both the norming population (1976-79) and the 1982 eighth grade students were quite similar in terms of entering performance and though both groups improved in performance from beginning seventh grade to the end of eighth grade, the present eighth grade clearly outperformed the students in the norming group. Percentages of students meeting the desired 75 percent standard improved from twelve to twenty eight percent over the three year norming population. Though the performances of students improved in all three areas, the greatest improvement occured in social studies (28 percent).

Comparison then of 1982 student performance with 1976-79 baseline data confirmed the excellent performance already noted on national and state tests. Results yielded by these various instruments consistently indicate that Spencerport students performed well.

F. How cost effective was this project?

To implement CAR a decision was made to use local personnel in the planning, directions, implementing and evaluating stages of the project. No federal or state funds were used to carry out the various activities required by the project. Over a three year period the entire faculty, consisting of forty or so professionals, were retrained in the philosophy and strategies of Content Area Reading. Total costs of the three year project were under $20,000 with monies mainly going to pay substitutes to free up teachers for training ($7,415) or for teacher implementers ($7,244). Modest sums were also spent for consultants ($1,800) and for typists ($1,164). Instructional materials came to $372. No new personnel have been added to the staff nor no new expensive equipment has been purchased. The project is fully installed and there should be little, if any, additional operational costs. Continued efforts to further the implementation are necessary but no major staff development monies are necessary. At most, relatively small sums of money will be needed for substitutes to train new teachers. Some additional monies will also be necessary to assess the quality of current units and their relevance to the various curricula, make changes in the curricula and as a result develop new units. It can be concluded then that the cost of this project has been relatively modest.

SUMMARY

The purpose of CAR is to foster effective instruction in all classrooms that require students to apply their reading skills to content material. A means to that end is to retrain staff in the philosophy and strategies of Content Area Reading. As indicated in this report, whether considering the initial training of staff or the focusing on the implementation strategies or the assessing of the overall impact on teacher attitude as well as student attitude and achievement, the preponderance of evidence seems to justify the claims of the project. At this evaluation point, the evidence strongly indicates that the goals and the objectives of the project were achieved. The entire staff has been retrained in the philosophy and strategies of CAR and serious efforts to implement CAR within the regular classrooms have been made and it appears that the staff supports the philosophy and most of the strategies required to implement CAR. Of crucial importance also is that students feel good about their core subjects and are achieving well in the basic subjects. This project then, making use of careful planning, cooperative involvement of central office as well as building personnel, has achieved its goals and objectives in a cost effective manner. In light of this assessment, should the project be transferred to other sites in the district?

Should the content area reading project be implemented at other levels in the Spencerport School system?

In light of the apparent success of the Cosgrove Junior High project, it is certainly reasonable to consider the replication of CAR at other sites in the Spencerport School District. In other places such as East Syracuse/Minor, Union Springs, Johnson City, and Watertown, that have implemented CAR, projects range from grade four through twelve. It is appropriate then to consider its downward application in the three elementary buildings at the intermediate level (grades 4-6) and its upward expansion to the senior high (grades 9-12).

In addition to the results achieved in this project in terms of teacher behavior and attitude and student attitude and achievement, a number of insights into the change process have been learned or re-enforced. To transfer CAR to other sites in the district the following factors or conditions are essential:

1. Careful preplanning and on-going planning to tailor the project to the unique needs of the target buildings. Crucial to this planning is the assessment of teacher needs and the identification of required competencies.

2. A clearly articulated plan of action based both on the needs of staff and model CAR projects. For this purpose the junior high model may require some modifications.

3. Active and meaningful involvement of the building principal in all stages of the project -- planning, implementing and evaluating.

4. Leadership and commitment of central office to the success of the project requires on-going monitoring as well as support in terms of availability of personnel, substitutes and monies for consultants and typists.

5. Identification and use of teacher trainers and implementers. One of the key factors in the success of the CAR model is the use of teachers to assist in the training of other teachers and to aid in the implementation. The building reading specialist, for example, can serve as coordinator of the various units and projects that make-up or flow from Content Area Learning/Reading.

This three year pilot project successfully met the requirements of effectiveness and cost efficiency. In spite of the limitations of this study, there seems to be strong evidence that the claims of the study are verifiable. Given then the factors or conditions listed above, it is certainly reasonable and desirable to consider the transfer of CAL/R to other sites in the Spencerport School District. Content Area Learning/Reading provides a basis and direction for the entire instructional process. As such it can provide a unified, coordinated approach to learning that is grounded in sound principles of learning and practical models of instruction.

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Summers, G. (ed.). Attitudes and Measurement, Chicago: Rand McNally, 1970.

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APPENDIX A

CAR WORKSHOP AGENDA

CONTENT AREA WORKSHOP

AGENDA FOR NOV. 27, 28, 29 and DEC. 4, 1979

DAY ONE

TOPICS

I. READING IN PERSPECTIVE

A. Presentation (see Part I - Overview of Manual)

B. Reaction Guide (Manual, p. 1)

C. Estimated Time: 1 hour 30 minutes

D. Resources - Herber, Chapters 1 and 2
Harold Herber, Teaching Reading in Content Area, 2nd edition, 1978

II. SENSE OF STRUCTURE

A. Instructional Framework (Manual, p. 2)

B. Reaction Guide
(Herber, Chapter 9: 232-3)

C. Estimated Time: 1 hour 30 minutes

D. Resources - Herber's text, Chapters 9 and 6: 152-157

III. VOCABULARY

A. Key Concepts
Reaction Guide (Herber, Chapter 6: 170-171)
Estimated Time: 30 minutes (Go to IV, Structured Overview)

B. Strategies (Manual, pp. 3-10)
Estimated Time: 1 to 2 hours

C. Resources - Herber, Chapter 6
Manual, pp. 3-10

IV. STRUCTURED OVERVIEWS

A. Key Concepts
Concept Statements

B. Developing and Using Structured Overviews
(Manual, pp. 11-12)

C. Estimated Time: 1 hour 30 minutes

D. Resources - Herber, Chapter 9

DAY TWO

V. SENSE OF PROCESS - COMPREHENSION

A. Levels of Comprehension
- Presentation
- Exercises
  (Herber, Chapter III: 39-40, 51-52)
  (Manual, pp. 14-23)

B. Construction of Reading/Reasoning Guide
(Manual, pp. 15-18)

C. Estimated Time: 4 hours

D. Resource - Herber, Chapters 3 and 5

VI. SENSE OF PROCESS - COMPREHENSION

A. Organizational Patterns
- Presentation
- Reaction Guide (Herber, pp. 100-102)

B. Estimated Time: 3 hours

C. Resource - Herber, Chapters 4 and 5

DAY THREE

VII. INTERDEPENDENT LEARNING - GROUPING

A. Individualization
   Individual differences
   Needs of students
   Assessment tools
   Resources: Scope and Sequence
   Diagnostic Inventories

B. Grouping (Manual, pp. 24-27)

C. Estimated Time: 3 hours

D. Resources: Herber, Chapter 8
   Junior High Scope and Sequence of Skills
   Junior High CRT/Diagnostic Inventories
   District/State Standardized Tests

VIII. EVALUATION

A. Key Concepts
   (Manual, pp. 28-29)

B. Types of Assessment
   Reaction Guide
   (Herber, p. 253)

C. Estimated Time: 3 hours

DAY FOUR

IX. PULLING IT ALL TOGETHER

A. Review of Key Concepts

B. Completion/Refinement of Unit

C. Estimated Time: 3 hours

X. IMPLEMENTATION AND EVALUATION

A. Discussion and Review of Unit Components

B. Planning for their use with students

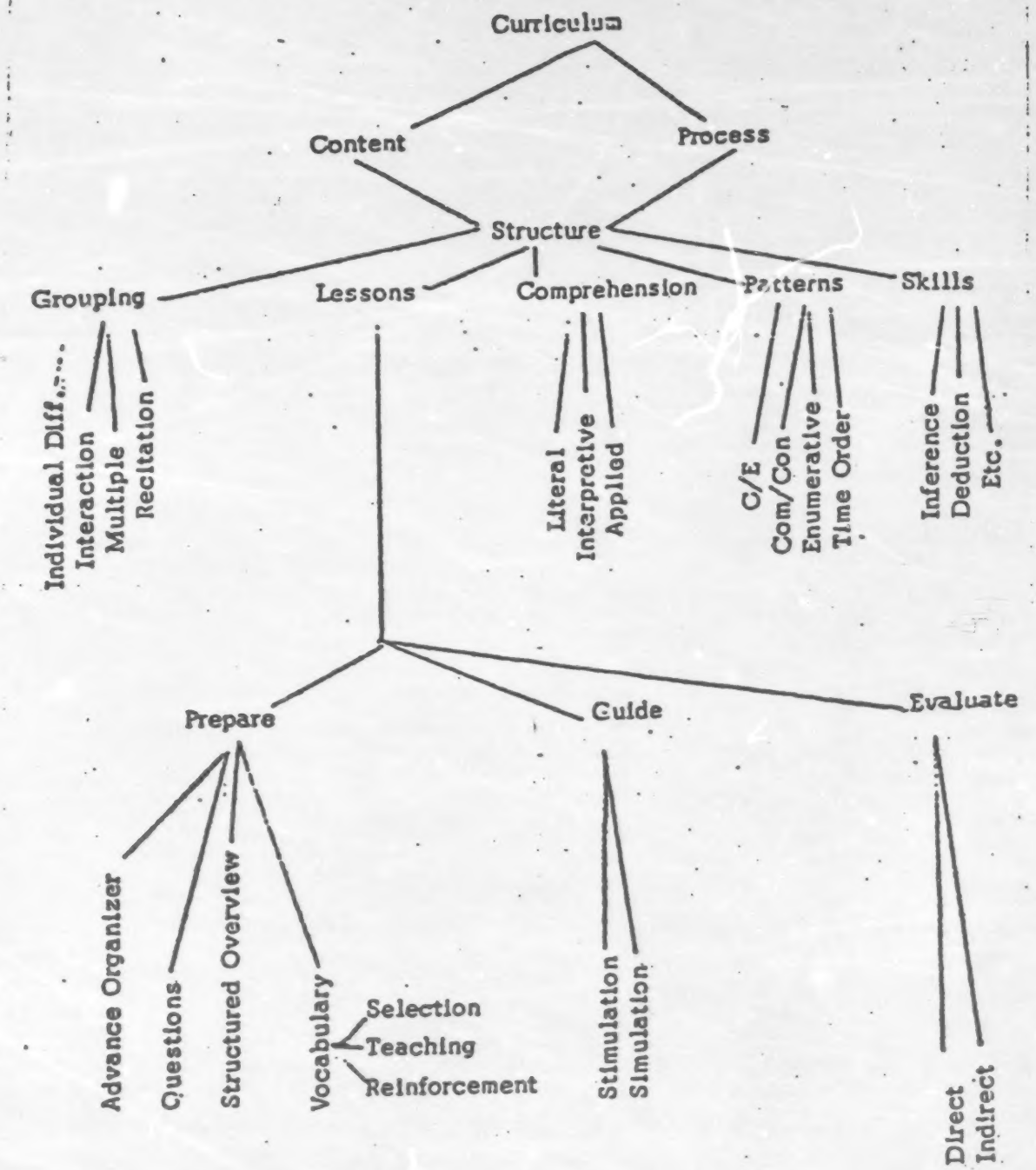
C. Evaluation of Workshop

D. Tentative Recommendations for next training session

E. Estimated Time: 3 hours

GOAL: INDEPENDENT LEARNERS

APPROACH: CO-LEARNING



APPENDIX B

SAMPLE OF TEACHER PLANNING BOOK

GENERAL INSTRUCTIONAL PLANS FOR THE YEAR
UNITS OF STUDY

Curriculum References	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter
(Used to plan content, concepts, vocabulary for instruction) 1. Board of Ed. Philosophy and Goals Policy 215P 2. District Curriculum Guide 3. N.Y.S. Syllabus 4. Textbook(s) or other supplemental material(s)				

Prd.	Monday	Tuesday	Wednesday	Thursday
1				
2				
3				
4				
5				

Week Ending _____
Friday

Reminders for Content Area Reading Instructional Planning
(Check those to be used)

___ Structured Overview
___ Concept Statement
___ Key Vocabulary (Teaching / Reinforcement)
___ Reading/Reasoning Guide(s)
___ Evaluation

Materials
(Check those to be used)

___ Textbook(s)
___ Teacher Prepared
___ Film(s)
___ Filmstrip(s)
___ Video Tape
___ _____
___ _____

Major Concept(s)

Key Vocabulary

Content Objective(s)

Processes/Skills

APPENDIX C

CAR PLAN BOOK REVIEW AND CLASS OBSERVATION FORM

CAR Planbook Review and Class Observation Form

Teacher_____ Observer_____

Subject_____ Grade Level_____

Part 1. Planbook Review	Yes	No	Notes
Plans prepared for the week	___	___	
Car reminders checked	___	___	
Specific items identified:			
___SO ___ Voc			
___CS ___R/R			
___Eval. ___ Other			
Major concepts identified	___	___	
Key vocabulary identified	___	___	
Content objective identified	___	___	
Processes/skills identified	___	___	

Part 2 Classroom Observation

Structure/Motivation Is there evidence that the teacher has not assumed student interest, motivation, or commitment for the unit/lesson?

_____goal setting (whole unit)

_____establishing purpose (specific assignment)

_____variety of instructional settings (Large group, small group, individual)

_____variety of instructional techniques (audio-visual, peer tutoring, lecture, hands on)

Diagnosis Is there evidence that the teacher has been using diagnostic information to determine students' specific needs?

_____use of district CRT

_____use of other diagnostic procedure (eg._____)

Instructional Strategies Is there evidence that the teacher has pre-taught key words and concepts? Is there evidence that the teacher has structured activities to simulate the desired student behavior?

_____concept statement

_____structures overview

_____vocabulary guide

_____3-level guides/questions

_____study skills/processes needed for context

Evaluation Is there evidence that the teacher is functionally determining the students' acquisition of content and processes?

_____ongoing assessment of students' responses to content and processes

_____adjustment of instructional strategies based on student responses

APPENDIX D

CAR WORKSHOP EVALUATION FORM

WORKSHOP EVALUATION-READING IN THE CONTENT AREAS

PART 1

1. Directions:
   1. Read each of the following statements.
   2. Preceding each statement is a blank. If you feel the stated behavior was evidenced in the workshop sessions, place a check mark in the blank.
   3. If you have additional comments about the workshop place them under the section entitled "Comments".

____ 1. The leaders were sensitive to the needs of the participants.

____ 2. The leaders were accepting of the feelings of the participants.

____ 3. The leaders were aware of the individuality of the participants.

____ 4. The leaders viewed themselves as co-learners with the participants.

____ 5. In each grouping situation the task was clearly defined.

____ 6. In each grouping situation the product expected was clearly identified.

____ 7. In each grouping situation the participants were walked through the procedure.

____ 8. In each grouping situation the objectives were clearly stated.

____ 9. Students were motivated.

____ 10. Background and review for the day's lesson was given.

____ 11. The purpose for activities was stated.

____ 12. Direction was given for activities.

____ 13. Participants were guided through small-group discussions by the use of appropriate questions and statements.

____ 14. Participants were given the opportunity for independent demonstration of learned skills and understandings.

COMMENTS:

WORKSHOP EVALUATION-READING IN THE CONTENT AREAS

PART 2

2. How do you rate each of the following (use "1" for poor and "5" for superior):

____ (A) The way the workshop was organized.

____ (B) The teaching techniques used.

____ (C) Relevance to your needs as a (principal, teacher, coordinator).

____ (D) Suitability of knowledge gained.

____ (E) Amount of knowledge gained.

____ (F) Degree of "practical" help.

____ (G) Use of workshop topics in your own setting.

____ (H) Relevance of handouts.

____ (I) Use of overhead and CAR manual.

____ (J) Instructor's ability to stimulate intellectual curiosity.

3. What were the principal strengths of the workshop?

4. What were the principal weaknesses of the workshop? List any recommendations/suggestions regarding training workshop as well as follow up implementation.

APPENDIX E

STATEMENTS SURVEY

STATEMENTS SURVEY: TEACHING READING IN CONTENT AREAS

Adapted from the Statements Survey: Teaching Reading in Content Areas by Joyce W. Lee, Carlotta Joyner Young, Eunice N. Askov, and Mary M. Dupuis (1976). From the Content Area Reading Project, sponsored by the Pennsylvania Department of Education

Over the past several years the faculty at the Cosgrove Junior High has been actively involved in a number of projects such as skill identification, development of instructionally related tests (CRT's), and most recently the use of a variety of instructional strategies for improving learning in all content areas. To help us evaluate the impact of these projects we have adapted for our use two surveys developed at The Pennsylvania State University. Your frank and careful responses to these surveys are needed and will be appreciated. When the data has been analyzed, we will be sharing that information with you.

INTRODUCTION

PART A

Directions: Do not use your name but instead choose any four digit number and write it in the student number section of the enclosed general purpose answer sheet and follow directions for filling in the corresponding bubbles. The number you selected will be used to relate the two surveys to each other.

1. Teaching Area

   a) _____Academic (English, Foreign Language, Math, Science, Social Studies)

   b) _____Special Subjects (Art, Home Ecom., Ind. Arts, Music, Physical Education, Health, Typing, Special Education)

   c) _____Support Staff (Guidance, Library, Administration)

2. Total Years Teaching Experience

   a) _____Less than 5 Years

   b) _____5-15 Years

   c) _____Over 15 Years

3. College Credits Beyond Undergraduate

   a) _____Bachelor's Degree

   b) _____Bachelor's Degree Plus 30 Hours

   c) _____Master's Degree

   d) _____Master's Degree Plus 30 Hours

STATEMENTS SURVEY

PART B

INSTRUCTIONS:

The following are statements about instructional procedures of content area teachers. The intent of this survey is to determine how you feel about these procedures in relation to your own teaching situation.

Read each statement and rate it according to your experience in your classroom. Please note that the general term teachers which appears in each statement is meant to include all teachers in the content areas such as in English, social studies, science, math, practical arts, fine arts and music, health education, foreign languages, and special areas.

You are to rate each statement on the following scale which appears below each item; the scale appears for each item in your booklet, but do not mark the booklet. Use the separate answer sheet provided.

(a)	(b)	(c)	(d)	(e)
Strongly Disagree	Slightly Disagree	Not Sure	Slightly Agree	Strongly Agree

Here is how to use the scale:

If you "strongly disagree" with the statement, fill in the space marked (a) on your answer sheet; if you "slightly disagree" with the statement, fill in the space marked (b) on your answer sheet; if you are "not sure" about the statement, fill in the space marked (c) on your answer sheet; if you "slightly agree" with the statement, fill in the space marked (d) on your answer sheet; and if you "strongly agree" with the statement, fill in the space marked (e) on your answer sheet.

REMEMBER: DO NOT PLACE YOUR RESPONSES IN THIS BOOKLET. USE THE SEPARATE ANSWER SHEET PROVIDED.

4. It is important that teachers develop tests which reflect the content taught in the same manner it was taught and at the same levels.

(a)	(b)	(c)	(d)	(e)
Strongly Disagree	Slightly Disagree	Not Sure	Slightly Agree	Strongly Agree

5. It is inappropriate for teachers to devote class instruction time to vocabulary development.

(a)	(b)	(c)	(d)	(e)
Strongly Disagree	Slightly Disagree	Not Sure	Slightly Agree	Strongly Agree

6. Each teacher should be able to identify skills and processes needed by students to master specific content in his/her discipline.

(a)	(b)	(c)	(d)	(e)
Strongly Disagree	Slightly Disagree	Not Sure	Slightly Agree	Strongly Agree

7. It is not appropriate for teachers to assess students' specific comprehension skills such as making inferences, following sequence, detecting bias or recognizing main ideas.

(a)	(b)	(c)	(d)	(e)
Strongly Disagree	Slightly Disagree	Not Sure	Slightly Agree	Strongly Agree

8. It is important that teachers provide a variety of materials which cover similar content but which represent a wide range of readability.

(a)	(b)	(c)	(d)	(e)
Strongly Disagree	Slightly Disagree	Not Sure	Slightly Agree	Strongly Agree

9. It is important that teachers be able to identify those students who are having trouble figuring out unfamiliar words.

(a)	(b)	(c)	(d)	(e)
Strongly Disagree	Slightly Disagree	Not Sure	Slightly Agree	Strongly Agree

10. It is not important for teachers to use reading and/or reasoning guides with students having difficulty reading the text on their own.

(a)	(b)	(c)	(d)	(e)
Strongly Disagree	Slightly Disagree	Not Sure	Slightly Agree	Strongly Agree

11. It is not necessary for teachers to develop and use evaluative instruments for assessing mastery of concepts and skills needed in their subject area(s).

(a)	(b)	(c)	(d)	(e)
Strongly Disagree	Slightly Disagree	Not Sure	Slightly Agree	Strongly Agree

12. Teachers should include statements at various comprehension levels on worksheets, study guides, and tests.

(a)	(b)	(c)	(d)	(e)
Strongly Disagree	Slightly Disagree	Not Sure	Slightly Agree	Strongly Agree

13. It is not important for teachers to be able to develop and use specific strategies for adapting a text to the needs of students.

(a)	(b)	(c)	(d)	(e)
Strongly Disagree	Slightly Disagree	Not Sure	Slightly Agree	Strongly Agree

14. Teachers should not spend class instruction time teaching students to use structured overviews and/or concept statements.

(a)	(b)	(c)	(d)	(e)
Strongly Disagree	Slightly Disagree	Not Sure	Slightly Agree	Strongly Agree

15. Prior to instruction it is desirable for teachers to identify difficult concepts and to develop appropriate reading, reasoning and/or reaction guides.

(a)	(b)	(c)	(d)	(e)
Strongly Disagree	Slightly Disagree	Not Sure	Slightly Agree	Strongly Agree

16. Teachers should teach those reading/thinking processes needed in their subject area(s).

(a)	(b)	(c)	(d)	(e)
Strongly Disagree	Slightly Disagree	Not Sure	Slightly Agree	Strongly Agree

17. Only reading teachers should provide instructional materials for groups of students with differing reading abilities.

(a)	(b)	(c)	(d)	(e)
Strongly Disagree	Slightly Disagree	Not Sure	Slightly Agree	Strongly Agree

18. Teachers should know how to evaluate mastery of concepts and processes needed in their subject area(s).

(a)	(b)	(c)	(d)	(e)
Strongly Disagree	Slightly Disagree	Not Sure	Slightly Agree	Strongly Agree

19. Only reading teachers should be concerned with diagnosing vocabulary development of students beyond the elementary school level.

(a)	(b)	(c)	(d)	(e)
Strongly Disagree	Slightly Disagree	Not Sure	Slightly Agree	Strongly Agree

20. It is necessary that teachers be able to identify and teach key concepts and vocabulary that are specifically needed in a unit of instruction.

(a)	(b)	(c)	(d)	(e)
Strongly Disagree	Slightly Disagree	Not Sure	Slightly Agree	Strongly Agree

21. Content teachers should not need to develop skill in assessing students' abilities to use concept statements and structured overviews.

(a)	(b)	(c)	(d)	(e)
Strongly Disagree	Slightly Disagree	Not Sure	Slightly Agree	Strongly Agree

22. It is not desirable for teachers to conduct small group lessons in using 3-level guides.

(a)	(b)	(c)	(d)	(e)
Strongly Disagree	Slightly Disagree	Not Sure	Slightly Agree	Strongly Agree

23. It is appropriate for teachers to match their teaching strategies to the identified needs of their students.

(a)	(b)	(c)	(d)	(e)
Strongly Disagree	Slightly Disagree	Not Sure	Slightly Agree	Strongly Agree

APPENDIX F

SITUATIONS SURVEY

SITUATIONS SURVEY: TEACHING READING IN CONTENT AREAS

Adapted from the Situation Survey: Teaching Reading in Content Areas by Joyce W. Lee, Carlotta Joyner Young, Eunice N. Askov, and Mary M. Dupuis (1976). From the Content Area Reading Project, sponsored by the Pennsylvania Department of Education

PART C SITUATIONS SURVEY

INSTRUCTIONS:

In this part of the survey, we are interested in your reactions to a series of hypothetical classroom situations and plans that various content area teachers might implement in these situations. Read each situation and plan, on the basis of your experience as a classroom teacher, rate the plan on each of the scales listed below the item.

Here are the different scales you will be using:

practical ____:____:____:____:____:____:____ impractical
ineffective ____:____:____:____:____:____:____ effective
inefficient ____:____:____:____:____:____:____ efficient
useful ____:____:____:____:____:____:____ useless
desirable ____:____:____:____:____:____:____ undesirable

You are then asked to rate each plan on the basis of its feasibility in the classroom. For this part of the survey, you will also use a scale. This is how the scale will appear:

feasible ____:____:____:____:____:____:____ not feasible

Finally, you are asked to respond on a scale which indicates how skilled you are at this time for executing a plan like the one described. Here is how this will appear:

skilled ____:____:____:____:____:____:____ unskilled

Here is how to use the scales:

If you feel that the plan or question is very closely related to one end of the scale, you should place your mark like this:

practical __X__:____:____:____:____:____:____ impractical

OR

practical ____:____:____:____:____:____:__X__ impractical

If you feel that the plan or question is quite closely related to one end of the scale (but not extremely), you should place your mark like this:

practical ____:__X__:____:____:____:____:____ impractical

OR

practical ____:____:____:____:____:__X__:____ impractical

If you feel that the plan or question is only slighly related to one side or the other, place your mark this way:

practical ____:____:__X__:____:____:____:____ impractical

OR

practical ____:____:____:____:__X__:____:____ impractical

INSTRUCTIONS: (continued)

Finally, if you feel that the plan or question is equally associated with either side of the scale or if you feel that the scale is completely irrelevant or unrelated to the plan, place your mark like this:

practical ____:____:____:_X_:____:____:____ impractical

IMPORTANT:

1. Do not place your mark between the boundaries; mark the middle of the spaces.

2. Do not omit any of the scales; note that there are seven scales to mark for each item.

3. Do not put more than one mark on a scale.

The following is a sample item to demonstrate the format of this survey:

SAMPLE ITEM:

SITUATION: A home economics teacher is preparing questions to ask during a guided discussion about menu planning, a topic on which the students have been doing independent reading since the last class meeting.

PLAN: The teacher plans to ask questions that represent various levels of comprehension during the discussion.

practical ____:____:____:____:____:____:____ impractical

ineffective ____:____:____:____:____:____:____ effective

inefficient ____:____:____:____:____:____:____ efficient

useful ____:____:____:____:____:____:____ useless

desirable ____:____:____:____:____:____:____ undesirable

On the basis of your classroom experience, how feasible would you say the above plan is:

feasible ____:____:____:____:____:____:____ not feasible

How skilled are you at this time for executing a plan like the one above?

skilled ____:____:____:____:____:____:____ unskilled

You will find that a variety of content areas are represented in the hypothetical situations that follow. Rate each plan according to its appropriateness for the content area described even though this may differ from the one in which you have had experience.

INSTRUCTIONS: (continued)

Sometimes you may feel as though you've had the same item before on the inventory. This will not be the case so do not look back and forth through the items. Do not try to remember how you checked similar items earlier in the inventory. Make each item a separate and independent judgment. Work at a fairly high speed through this inventory. Do not worry or puzzle over individual items. It is your first impressions, the immediate "feelings" about the items, that we want. On the other hand, please do not be careless, because we want your true impressions.

PLACE YOUR RESPONSES IN THIS BOOKLET. DO NOT USE A SEPARATE ANSWER SHEET.

1. SITUATION: A science teacher is preparing a unit on plants based on a chapter from a text labeled at the students' grade level.

   PLAN: The teacher refers to group diagnostic tests which were administered earlier in the year. The tests are teacher-made and are intended to give information about: students' vocabulary, ability to locate information, and levels of comprehension.

practical	____	: ____	: ____	: ____	: ____	: ____	: ____	impractical
ineffective	____	: ____	: ____	: ____	: ____	: ____	: ____	effective
inefficient	____	: ____	: ____	: ____	: ____	: ____	: ____	efficient
useful	____	: ____	: ____	: ____	: ____	: ____	: ____	useless
desirable	____	: ____	: ____	: ____	: ____	: ____	: ____	undesirable

   On the basis of your classroom experience, how feasible would you say the above plan is?

feasible	____	: ____	: ____	: ____	: ____	: ____	: ____	not feasible

   How skilled are you at this time for executing a plan like the one described above?

skilled	____	: ____	: ____	: ____	: ____	: ____	: ____	unskilled

2. SITUATION: A math teacher is preparing a worksheet of word problems for a class of students who have previously had difficulty with this type of work.

   PLAN: Before assigning the worksheet, the teacher plans to work with the students on such comprehension skills as identifying relevant details, following a sequence, and using efficient problem solving techniques.

practical	____	: ____	: ____	: ____	: ____	: ____	: ____	impractical
ineffective	____	: ____	: ____	: ____	: ____	: ____	: ____	effective
inefficient	____	: ____	: ____	: ____	: ____	: ____	: ____	efficient
useful	____	: ____	: ____	: ____	: ____	: ____	: ____	useless
desirable	____	: ____	: ____	: ____	: ____	: ____	: ____	undesirable

   On the basis of your classroom experience, how feasible would you say the above plan is?

feasible	____	: ____	: ____	: ____	: ____	: ____	: ____	not feasible

   How skilled are you at this time for executing a plan like the one described above?

skilled	____	: ____	: ____	: ____	: ____	: ____	: ____	unskilled

3. SITUATION: An English teacher is preparing to teach a short story from the anthology suggested in the curriculum guide.

PLAN: The teacher plans to assign those who are competent readers to read the story on their own and engage in several individualized assignments. The less competent readers will read the story using a 3-level guide. The teacher also will provide considerable help in vocabulary and concept development.

practical ____:____:____:____:____:____:____ impractical
ineffective ____:____:____:____:____:____:____ effective
inefficient ____:____:____:____:____:____:____ efficient
useful ____:____:____:____:____:____:____ useless
desirable ____:____:____:____:____:____:____ undesirable

On the basis of your classroom experience, how feasible would you say the above plan is?

feasible ____:____:____:____:____:____:____ not feasible

How skilled are you at this time for executing a plan like the one described above?

skilled ____:____:____:____:____:____:____ unskilled

4. SITUATION: A social studies teacher is making plans for teaching a new unit.

PLAN: The teacher intends to consider the reading levels of students when selecting materials to use or adapt.

practical ____:____:____:____:____:____:____ impractical
ineffective ____:____:____:____:____:____:____ effective
inefficient ____:____:____:____:____:____:____ efficient
useful ____:____:____:____:____:____:____ useless
desirable ____:____:____:____:____:____:____ undesirable

On the basis of your classroom experience, how feasible would you say the above plan is?

feasible ____:____:____:____:____:____:____ not feasible

How skilled are you at this time for executing a plan like the one described above?

skilled ____:____:____:____:____:____:____ unskilled

5. SITUATION: An English teacher is preparing a unit on the short story with emphasis on the structure of a good story.

PLAN: The teacher plans to divide the class into groups based on reading ability and to assign each group an appropriate reading, reasoning, or reaction guide. When the groups have completed their reading and the discussion of their guides, the whole class will discuss common elements of concern, focusing on elements of structure in short stories.

practical ____:____:____:____:____:____:____ impractical
ineffective ____:____:____:____:____:____:____ effective
inefficient ____:____:____:____:____:____:____ efficient
useful ____:____:____:____:____:____:____ useless
desirable ____:____:____:____:____:____:____ undesirable

On the basis of your classroom experience, how feasible would you say the above plan is?

feasible ____:____:____:____:____:____:____ not feasible

How skilled are you at this time for executing a plan like the one described above?

skilled ____:____:____:____:____:____:____ unskilled

6. SITUATION: A home economics teacher observes that students are having difficulty comprehending a chapter in the textbook.

PLAN: The teacher identifies several key vocabulary words and major concepts and uses a concept statement and a structured overview to assist the students in comprehending the chapter.

practical ____:____:____:____:____:____:____ impractical
ineffective ____:____:____:____:____:____:____ effective
inefficient ____:____:____:____:____:____:____ efficient
useful ____:____:____:____:____:____:____ useless
desirable ____:____:____:____:____:____:____ undesirable

On the basis of your classroom experience, how feasible would you say the above plan is?

feasible ____:____:____:____:____:____:____ not feasible

How skilled are you at this time for executing a plan like the one described above?

skilled ____:____:____:____:____:____:____ unskilled

7. SITUATION: A math teacher is planning a unit on comparative measurement which includes problems involving the interpretation of charts and graphs.

PLAN: The teacher plans to spend some time instructing students in the skills needed to interpret various charts and graphs before assigning the math problems in the unit.

practical	_____:_____:_____:_____:_____:_____:_____	impractical
ineffective	_____:_____:_____:_____:_____:_____:_____	effective
inefficient	_____:_____:_____:_____:_____:_____:_____	efficient
useful	_____:_____:_____:_____:_____:_____:_____	useless
desirable	_____:_____:_____:_____:_____:_____:_____	undesirable

On the basis of your classroom experience, how feasible would you say the above plan is?

feasible	_____:_____:_____:_____:_____:_____:_____	not feasible

How skilled are you at this time for executing a plan like the one described above?

skilled	_____:_____:_____:_____:_____:_____:_____	unskilled

8. SITUATION: A science teacher has identified several students as lacking skill in figuring out words containing prefixes and suffixes.

PLAN: The teacher plans to take part of several class periods to instruct these students in this skill while the rest of the class is involved in other meaningful activities. They will then practice utilizing this skill independently by using self-instructional materials prepared by the teacher.

practical	_____:_____:_____:_____:_____:_____:_____	impractical
ineffective	_____:_____:_____:_____:_____:_____:_____	effective
inefficient	_____:_____:_____:_____:_____:_____:_____	efficient
useful	_____:_____:_____:_____:_____:_____:_____	useless
desirable	_____:_____:_____:_____:_____:_____:_____	undesirable

On the basis of your classroom experience, how feasible would you say the above plan is?

feasible	_____:_____:_____:_____:_____:_____:_____	not feasible

How skilled are you at this time for executing a plan like the one described above?

skilled	_____:_____:_____:_____:_____:_____:_____	unskilled

9. SITUATION: An industrial arts teacher is setting up orientation sessions for students without previous experience in the woodworking shop. During a nine week period in this shop, each student will construct one item using written directions following teacher demonstrations of equipment.

PLAN: The teacher plans to examine each set of written directions, selecting those words which occur frequently in most of the plans for use in a group vocabulary lesson to be taught as part of the orientation.

practical	_____:_____:_____:_____:_____:_____:_____	impractical
ineffective	_____:_____:_____:_____:_____:_____:_____	effective
inefficient	_____:_____:_____:_____:_____:_____:_____	efficient
useful	_____:_____:_____:_____:_____:_____:_____	useless
desirable	_____:_____:_____:_____:_____:_____:_____	undesirable

On the basis of your classroom experience, how feasible would you say the above plan is?

feasible	_____:_____:_____:_____:_____:_____:_____	not feasible

How skilled are you at this time for executing a plan like the one described above?

skilled	_____:_____:_____:_____:_____:_____:_____	unskilled

10. SITUATION: A foreign language teacher has taught a unit on French culture and is preparing a unit test.

PLAN: The teacher designs the test to measure mastery of specific information as well as the interpretation and application of the concepts.

practical	_____:_____:_____:_____:_____:_____:_____	impractical
ineffective	_____:_____:_____:_____:_____:_____:_____	effective
inefficient	_____:_____:_____:_____:_____:_____:_____	efficient
useful	_____:_____:_____:_____:_____:_____:_____	useless
desirable	_____:_____:_____:_____:_____:_____:_____	undesirable

On the basis of your classroom experience, how feasible would you say the above plan is?

feasible	_____:_____:_____:_____:_____:_____:_____	not feasible

How skilled are you at this time for executing a plan like the one described above?

skilled	_____:_____:_____:_____:_____:_____:_____	unskilled

11. SITUATION: A team of English and social studies teachers is making plans for guiding students in the writing of a research paper on one aspect of the Revolutionary War.

PLAN: The teachers identify and pre-teach needed skills such as locating information, compiling a bibliography, taking notes, and organizing the paper.

practical	____:	____:	____:	____:	____:	____:	____ impractical
ineffective	____:	____:	____:	____:	____:	____:	____ effective
inefficient	____:	____:	____:	____:	____:	____:	____ efficient
useful	____:	____:	____:	____:	____:	____:	____ useless
desirable	____:	____:	____:	____:	____:	____:	____ undesirable

On the basis of your classroom experience, how feasible would you say the above plan is?

feasible	____:	____:	____:	____:	____:	____:	____ not feasible

How skilled are you at this time for executing a plan like the one described above?

skilled	____:	____:	____:	____:	____:	____:	____ unskilled

12. SITUATION: A health education teacher is concluding a unit on First Aid and is preparing to evaluate the students.

PLAN: As a review technique the teacher provides a partially developed structured overview for the students to complete.

practical	____:	____:	____:	____:	____:	____:	____ impractical
ineffective	____:	____:	____:	____:	____:	____:	____ effective
inefficient	____:	____:	____:	____:	____:	____:	____ efficient
useful	____:	____:	____:	____:	____:	____:	____ useless
desirable	____:	____:	____:	____:	____:	____:	____ undesirable

On the basis of your classroom experience, how feasible would you say the above plan is?

feasible	____:	____:	____:	____:	____:	____:	____ not feasible

How skilled are you at this time for executing a plan like the one described above?

skilled	____:	____:	____:	____:	____:	____:	____ unskilled

APPENDIX G

STATEMENTS SURVEY
PERCENTAGE OF TEACHERS' RESPONSES

Statements Survey

Percentage of Teachers' Responses

(n=40)

category		Responses strongly negative 1	2	not sure 3	4	strongly positive 5
diagnosis items	6		3		18	80
	7	5	5	10	23	58
	9	3		3	25	70
	19	3	15	10	28	45
	21	30	18	5	18	30
structure or organization	8		13	10	25	53
	13		10	5	33	53
	14	18	15	18	28	23
	17	10	13	5	30	43
	22	10	18	25	30	18
processes or skills	5	8	3	3	20	68
	10	3	18	10	30	40
	12	10	5	10	28	48
	15		10	5	35	50
	16	3	3	5	15	75
	20	5		3	8	85
	23	8			15	78
evaluation	4	3	3	5	25	65
	11	3	5	3	20	70
	18	5	3		18	75

Note: Higher numbers on the scale indicate more positive attitudes toward content area reading.

APPENDIX H

SITUATIONS SURVEY
PERCENTAGES OF TEACHERS' RESPONSES

Situations Survey

Percentage of Teachers' Responses

(n=40)

category		Responses						
		strongly negative			neutral			strongly positive
		1	2	3	4	5	6	7
diagnosis	1		2.5	7.5	17.5	20	35	17.5
structure	3		5	10	7.5	20	30	27.5
or	4				7.5	17.5	35	40
organization	6	10	2.5	5	17.5	17.5	25	22.5
	2				2.5	17.5	32.5	47.5
processes	5	2.5	5	12.5	20	17.5	27.5	15
or	7					10	35	55
skills	8	2.5	10	10	20	15	30	12.5
	9	2.5			10	5	30	52.5
	11			2.5	5	7.5	22.5	62.5
evaluation	10				2.5	10	30	57.5
	12	10	10	12.5	15	12.5	15	25

Note: Higher numbers on the scale indicate more positive attitudes toward content area reading.

APPENDIX I

FEASIBILITY SCORES
PERCENTAGES OF TEACHERS' RESPONSES

Feasibility Scores

Percentage of Teachers' Responses

(n=40)

category		not feasible			not sure			feasible
		1	2	3	4	5	6	7
diagnosis	1	12.5	15	7.5	7.5	17.5	27.5	12.5
structure or organization	3	5	10	7.5	7.5	17.5	32.5	20
	4	7.5	7.5	5	7.5	12.5	30	30
	6	10		2.5	12.5	17.5	27.5	30
processes or skills	2			2.5	5	12.5	35	45
	5	15	20	12.5	10	20	5	17.5
	7	2.5			2.5	5	22.5	67.5
	8	10	32.5	5	12.5	7.5	22.5	10
	9	2.5	2.5		2.5	12.5	22.5	57.5
	11	2.5	7.5	2.5	2.5	12.5	20	52.5
evaluation	10				5	10	45	40
	12	12.5	10	10	7.5	15	12.5	32.5

Note: Columns 1 and 2 indicate strongly negative attitudes toward the feasibility of suggested plans.

Columns 6 and 7 indicate strongly positive attitudes toward the feasibility of suggested plans.

APPENDIX J

PERCEIVED SKILL SCORES
PERCENTAGE OF TEACHERS' RESPONSES

Perceived Skill Scores

Percentage of Teachers' Responses

		Responses						
category		unskilled			not sure			skilled
		1	2	3	4	5	6	7
diagnosis	1		15	7.5	15	22.5	17.5	22.5
structure or organization	3	2.5	5	7.5	17.5	15	27.5	25
	4		2.5	5	17.5	22.5	27.5	25
	6	2.5	2.5	5	10	5	37.5	37.5
processes or skills	2		2.5	2.5	7.5	12.5	35	40
	5	10	7.5	10	15	15	17.5	25
	7	2.5	2.5		5	5	30	55
	8	5	15	2.5	12.5	12.5	25	27.5
	9	2.5	2.5		7.5	7.5	20	60
	11	2.5	2.5	2.5	7.5	20	25	40
evaluation	10	2.5	2.5		5	10	35	45
	12	5	5	7.5	7.5	12.5	32.5	30

Note: Columns 1 and 2 indicate strongly negative attitudes or lack of confidence in the ability to carry out the suggested plan.

Columns 6 and 7 indicate strongly positive attitudes or strong feelings of confidence in the ability to carry out the suggested plan.